American Bee Journal

Volume 99 NOVEMBER 1959 Number 11

The Great Southeast

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South Section

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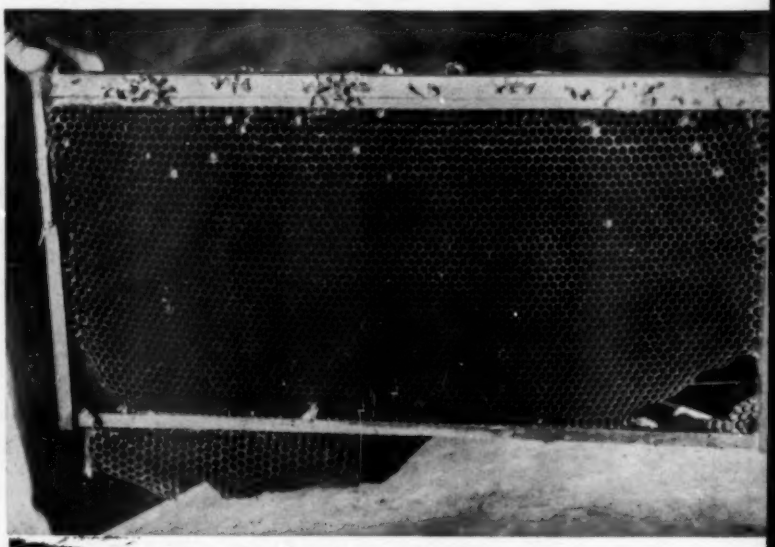

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W. A. STEPHEN, Editor

Steve is Extension Beekeeper, North Carolina State College, Raleigh.

WILLIAM G. EATON, Picture Editor

Teacher, photographer, and beekeeper, Winchester, Kentucky.

The Great Southeast

South Section

The North Section in October created considerable hand clapping. It included Maryland, West Virginia, Virginia, Kentucky and Tennessee. The present South Section includes North Carolina, South Carolina, Georgia, Alabama, Mississippi and Florida. So we end our first venture in regional stories. As time goes it may be possible to provide similar information to cover other areas.

The Cover Story

by William G. Eaton

The pictures on this month's cover represent various ways in which bees serve this southern part of the Southeast. Some of the largest incomes are from beekeeping, particularly from package bees and queens. The area also produces some of the finest honey to be found anywhere. At least one large commercial co-operative is in this area.

Special thanks is extended to John D. Haynie, Florida Extension Entomologist, for his help in securing the various illustrations for the cover, including his own. Thanks also to H. A. Denmark, entomologist of the Florida State Plant Board for his assistance.

The Pictures —

Top left, Milledge Murphy, Jr., assistant professor of entomology, University of Florida, furnished this view, typical of the many queen mating yards in the area. This is the yard of Walter Leverette of Fort Pierce.

Top right. Package bees ready for shipment to the north from the apiaries of Paul Cutts, Chipley, Fla. Photo from J. E. Sellers, Washington County News.

Upper left center. In all the kingdom of the honey bee what sweeter words than "orange blossoms" which make us think of weddings and the perfume-laden air of springtime. Photo from Burgert Bros., Tampa, Fla.

Upper right center. This solar wax melter provides the solution to wax rendering in Photo Editor's back yard apiary. (Photo by Bill Eaton.)

Lower left center. The D. A. Winesett processing plant at Pinnacle, North Carolina. This business distributes honey in at least five of the southeastern states. (Photo by Eaton.)

Lower right center. The male blossom of the tupelo gum tree, an important source of the Southeast's honey. Photo from John D. Haynie.

Bottom left. Typical apiary in a Central Florida orange grove, owned by Arthur Brady of Winter Park. Photo by Dr. Roger Morse, former entomologist of the Florida State Plant Board (now at Cornell University in New York). Submitted by H. A. Denmark of the State Plant Board.

Bottom right. A typical apiary in the tupelo country. This location belonged to the late veteran beekeeper J. A. Whitfield of Wewahitchka. Photo from John D. Haynie.

1960 — *The One Hundredth Anniversary of the American Bee Journal*

Since the time Samuel Wagner launched the Journal in 1861 in Philadelphia to the coming year of 1960, one hundred years have passed. In those years the major changes and improvements in beekeeping have occurred to bring the present framework of the industry to its high state. In the foreseeable future we can almost predict the changes which will further set the pattern for our beekeeping tomorrow.

So the Journal in 1960 will cover the happenings of the past hundred years and attempt to predict the changes to come. There will be no sacrifice of the present reader classifications nor any substitution of them. Some of the high-point events of the past will be reproduced, as near as possible, to the original presentations. So get set for a new year of unusual reading (incidentally send your renewal before the rate changes on January 1st).

The Great Southeast

Continued from October - SOUTH SECTION -

NORTH CAROLINA, SOUTH CAROLINA, GEORGIA, ALABAMA, MISSISSIPPI, FLORIDA.

North Carolina - - - - - - -

by W. A. STEPHEN

The live oaks in the Southeast hang with Spanish moss; the crest of the Blue Ridge is covered with stunted evergreens. Such is the diversity of flora that is found in North Carolina. Covering an area of about 50,000 square miles, North Carolina averages 100 miles from north to south and 500 miles from the Atlantic to the Appalachian and Great Smoky Mountains. There is little difference of climate due to latitude, but the altitude, ranging from sea level to over 6,000 feet, and the distance from the ocean means that in the West the flora is temperate while in the extreme Southeast it is subtropical to tropical.

Along the coast grow the gums (*Nyssa* spp.) which have lent their name to beekeeping terminology. It probably came about in this way. Forest fires injured the base of the trees. Heart-rot hollowed their boles and bees found a home away from home when they swarmed. When such a bee tree was discovered, it was, of course, a "gum." When cut off and carried home, it was a "gum of bees." The word "gum" thus became synonymous with hive or colony, the word skep being unfamiliar. Later, when upright boxes made of four 8-12 inch boards or planks were constructed, they were known as "box gums." Still later when the movable frame hives made their appearance, they took the name "patent gums." In some areas where A. I. Root hives were common, they were known as the "Root gums." In "The Honey-Bee" by Edward Bevan (1827) it says, "In North America, they (i.e. the hives) are formed out of *the hollow trunks of the liquidambar tree.*" In later editions of this work, it says "...the *hollow trunks of the liquid amber tree.*" Undoubtedly *Liquidambar strayaciflua*, the sweet or red gum, is meant although this tree is not so subject to heart-rot as the black and tupelo gums, and would not be used as extensively for hiving swarms of bees.

Only the varieties of Nyssa are important for honey. The tupelo gum yields quite well in the areas fed by streams and rivers, but the bloom, coming in April, is likely to be killed by frost. Even if weather is suitable, most bees are not built up to strength at that time of year to take full advantage of the flow. Later the black gum yields; also the holly and the low bush gallberry contribute to the surplus of spring honey. Later in some areas, pepper bush (*Clethra* sp.) gives a high quality summer honey.

The Coastal Plain covers roughly one-half of the state extending inward about 150 miles. The Coastal Plain is divided into two natural divisions, in the outer portion of which is found the best beekeeping territory. In the inner portion, the land is gently rolling and well drained and is farmed extensively. Here the cash crops of cotton, corn, and tobacco have caused a decline in beekeeping in the past couple of decades.

The Piedmont section of North Carolina extends from the Coastal Plain to the Mountains. Most of the top soil has been washed down the rivers long ago so that now artificial fertilizers must be provided to feed the crops. Only those shrubs and trees that have persisted and have adapted themselves to the unnatural soil conditions secrete the nectar that is collected by the honey bees during the months of May and June.

The Mountain Region in the west flares out from being narrow in the north to quite wide in the south. Throughout all of this area, as in the Piedmont and Upper Coastal Plain, the tulip poplar is the most important plant. However, the beekeepers in these areas suffer from the dillusions that only sourwood honey is worth working for and they do not try to build up their colonies early in the season to take advantage of the spring honeyflow from tulip poplar and other early blooming plants. In the northern section near the Virginia line, Mr. Ralph B. Cheek has a supplementary flow from black locust and white clover in June until about a week to 10 days before the sourwood, basswood, and sumac begin blooming. The beekeepers mostly use 2 hive bodies and produce comb honey in the shallow frames. They cut out this comb and pack it in glass, pouring extracted honey over it. In late March, 1955, Cheek and two of his neighbor beekeepers found an average of 16 combs containing brood in 47 two-story colonies. Besides finding it difficult to build bees to full strength for the May flow, they find swarming much worse in single hive bodies. All surplus equipment is removed from the hives shortly after the end of July.

Mr. Raymond Presnell living farther south in the mountains moves his bees as far as 50 miles westward into Tennessee and eastward towards the foot of the mountains. He finds that he gets a good honeyflow about once in 7 years with an average flow once in 5 years. The rest of the time it runs from poor to nothing. To illustrate the difficulties one may encounter in sourwood country, during 1958 Presnell fed 1200 pounds of sugar to 100 colonies, getting a return of only $36.00 for honey produced. Even then 25 colonies perished during a time when they should have been storing surplus honey. The weather pays an important part in sourwood honeyflow, July frequently being a rainy month. However, Presnell thinks that some insect may be injuring the blooms or usurping the nectar. In a good year, Presnell recalls having seen nectar put into the brood combs so that the larvae floated out of their cells. On one particularly hot, humid and showery occasion, the sourwood yielded so heavily that before nine o'clock in the morning all the bees were gorged with raw nectar and scarcely a bee in the apiary was flying. The bees clustered on the outside ripening the nectar by exposure to the air between their mandibles.

In the extreme south of the mountains, Mr. H. J. Rosenkranz operates 250 to 300 colonies in an area that is more consistent than in the north. Rosenkranz suggests that one of the best things is to have a good queen and plenty of working force — just plain good management. Mr. Gerald Sitton, farther east concentrates on the production of sourwood honey. He mentions the large number of small beekeepers and the diversion of opinions as to what are best management

Earl Bender, in Jones County, examining a colony.

J. E. Ford, Manager, Log Cabin Association, Cullowee, shows three girls how to install package bees.

A beekeepers' meeting in the apiary of Mr. Bond, Burgaw, North Carolina.

Bee gums in Bertie County.

NORTH CAROLINA

. . . Stephen

practices. In addition to the sourwood, they also get some basswood, sumac and fall flow so that even if they do not get the pure sourwood, they usually have something for the home larder during the year.

North Carolina has a few beekeepers who have specialized in queen breeding and the production of package bees. Two of these, Mr. G. E. Curtis of the Alamance Bee Company, Graham, N. C. and Mr. J. L. O'Ferrell and Sons of Greensboro, carry on their business at LaBelle, Florida during the winter. Their problem in North Carolina was to get warm enough weather for queen mating flights prior to mid-April. Also the cold springs may keep the bees from building up strong enough so as to be able to set up mating boxes and shake packages for early production. Artificial food is necessary as a substitute for honey and pollen. Then, in the hot weather the big problem is to keep bees from swarming out of the mating boxes. At this time throughout the Piedmont, there is no honeyflow, therefore, the mating boxes and cell-building colonies must be fed heavily. O'Ferrell considers the fall the best time for queen rearing, but this is the season when orders are at a minimum.

Mr. S. C. Squires, secretary-treasurer of the N. C. State Beekeepers Association, not far from Raleigh, raises a few queens and is working into the business in a bigger way. He has been keeping bees since 1912 and finds our uncontrollable weather conditions to be the biggest problem. In his section the honeyflow starts around April 20 to May 10. Maples, redbuds and elm provide some of the earliest pollen which he supplements by feeding dry pollen substitute in the open. Frequently the weather is very dry after June and goldenrod and aster do not yield as well as in wet years. Once in a long while sourwood honey is produced in the Piedmont. Such was the case in 1955 after we had had a severe freeze on March 25. Poisons are not a problem since the alfalfa weevil is the only insect for which any spraying is done in his section and the bees there do not work alfalfa.

North Carolina is supposed to have the most beekeepers of any state in the nation. We have a larger farm population even than Texas. Because nature is kind in producing early spring pollen and nectar, chiefly from red maple, and in the autumn by providing some surplus from the asters even the "Bee-havers" in the state find their number of colonies undiminished from year to year.

The most honey bees are concentrated in the Upper Piedmont and mountains, but the best beekeeping territory is along the coast. It is here that we have our few large commercial producers. With greater diversity in agriculture, it is possible that the trend of declining numbers of colonies in the eastern counties and the increasing numbers in the west will become less pronounced and, if some good pasture plant that yields

sufficient nectar is discovered, it is likely that we shall have greater stability in beekeeping throughout the whole state.

In contrast to 12 to 14% rural population for the nation as a whole, North Carolina has about 65% rural population. There is rapidly expanding industrialization and great numbers of workers in these plants have small plots of land along the highways where they can do some gardening, keep some chickens, a cow and a few bees. A great majority of the beekeepers in North Carolina are people such as these who have only a few colonies in their backyards. While very little of the production passes through wholesalers' hands, the value of the honey produced ranges from one to two million dollars annually.

Pollination services rendered by the bees would increase the value of bees in our agricultural economy to 20 to 30 million dollars. There is some income from rental of bees in the areas growing cucurbits and apples.

Problems in Piedmont, North Carolina

by S. C. Squires, Chapel Hill

I have been keeping bees here since 1912 and I believe I know some of the problems. The most serious one is the weather which no one can control. About the first of the year we have a lot of cold weather, rain or snow, until the middle of March, and often the rain will continue until about the middle of April. This retards build-up for the honeyflow which starts about May 1st with a variation of a possible ten days either way.

Our first main flow is from tulip poplar and no light flow before that is dependable. Sometimes we get a good flow from red bud about the last of March but the weather makes it difficult for bees to work it.

My bees start taking artificial pollen in early January and continue on it every day the weather allows until about February 1st when maple and elm start to bloom. The bees take the substitute dry in boxes and in 1958 they carried 14 pounds from one box. There were about 60 colonies carrying pollen substitute from this box at one time.

We have a loose red soil through most of Piedmont North Carolina with a clay subsoil so tight in most places that it is hard for water to penetrate. If we don't have plenty of rain through the summer,it gets so dry we do not get much honey from clover or anything else after some time in June. Another problem is that we do not have enough lime, and clover without lime is not much of a honey plant.

We have plenty of dairies in this part of the state, but they use compost on their pastures which grows good clover for their purpose but doesn't produce honey.

Because of the dry weather, the goldenrods and asters after June usually do not amount to much. The year 1958 was the first year in ten or fifteen that the bees got a good honeyflow from aster. I have known colonies to have a deep super full of honey left on them in June after the honeyflow and then starve before fall.

We get a little honey from sourwood about every three or four years. But we get what I would call a real flow only about every ten or fifteen years, usually in July. When it does produce, it falls like rain for about two weeks and I have had five-comb nuclei boxes that I use for queen rearing make 30 pounds of sourwood honey during the flow.

We have a lot of the one to five colony class of beekeepers in this part of the state. Most of them expect to set their bees out in some out-of-the-way place and let them care for themselves. Some of them do not seem to know that you can put more than one shallow super above the excluder on top of the brood chamber but if they had any surplus, they would not know how to take it off. They are afraid to learn because of stings. If you ask them to a meeting, they claim they are so busy they can't come.

We have one thing to be thankful for. We are not bothered with spray as our type of soil does not produce good tobacco or cotton and about the only kind of spraying is for alfalfa weevil and our bees do not work alfalfa.

We have little disease in this part of the state. I have never had it in a single colony since I became a beekeeper and only very few cases of Nosema.

S. C. Squires. He says this is the best way to carry a swarm when you don't have a hive with you.

Bees working on pollen substitute in early January. They do this every day, weather permitting, until maple and elm bloom in February.

"My, it's a perfect fit!" says Steve as he gives Mrs. Stephen a hand in trying on the latest skep-hat creation. The admiring onlookers are Mr. and Mrs. George Vest of Lynchburg. (Eaton photo)

D. A. Winesett, Pinnacle, is a large producer-packer. Charles Winesett (above) says they run locally for sourwood. Their main location for over 400 colonies is at Plymouth. They have sales outlets in six states. (Eaton photo)

Sourwood Honey in the North Carolina Mountains

by **Ralph B. Cheek**, Sparta

In this Blue Ridge area of western North Carolina, many of our beekeepers produce bulk comb honey which is mostly consumed locally. Nearly all our customers want sourwood. The sourwood is a small tree which grows up to thirty or forty feet with a diameter of twelve inches. It rarely grows higher than twenty feet in the lowlands.

At our elevation of three thousand feet, sourwood blooms in early July and will produce nectar for about two or three weeks. Some beekeepers locate in the foothills of the mountains and follow the bloom by moving up higher as the flow develops. Weather affects the crop frequently as in July we often get rain for a period of from one to two weeks. Many of our older beekeepers estimate we get a good crop of sourwood only once every four to six years.

Actually we have two main flows, the first about May 15th with white clover, black locust, and yellow poplar producing a heavy flow until June 15 to 20. Then our bees have a week to ten days before sourwood, basswood and sumac. Throughout the season there are many minor periods of activity.

Many of our beekeepers in this locality use two hive bodies and produce comb honey in shallow supers instead of section boxes. Then they cut out chunks of comb, pack it in glass and pour extracted honey over it. It makes an attractive package. By using two bodies, we get the bees strong early enough for the first major flow in May. It is difficult to build up colonies in one hive body in time for the May flow. Also swarming is worse in single bodies even with a shallow super than from two bodies.

Typical supering over two hive bodies is (1) before black locust, 1st shallow super; (2)) ten days later, 2nd shallow super; (3) just before sourwood, 3rd shallow super.

These records are for an average of fifteen colonies for seventeen years. We do not always fill three shallow supers but the bees need that much room. Shortly after the end of July our season ends and we remove all the shallows.

A management program for our country might go something like this: (1) February (alder bloom) examine for stores, queens and disease; (2) March (maple bloom) examine for stores, feed, check queens, look for disease, give a young queen if needed, install package bees; (3) April 20-May 10 (apple bloom) check for stores, feed if necessary, continue checking queens and disease, give first shallow super, enlarge entrances; (4) May 20-June 30 (main spring flow) continue examinations, add supers if needed, use excluders if necessary and some method of swarm control where needed; (5) July 30-Aug. 15 (end of sourwood) remove surplus, check queens and disease; (6) September 15 (fall flow) check for storage, feed if necessary, requeen all queens older than one year, check for disease; (7) September 20—check all hives given young queens in September, replace queens not accepted, paint and fix up; (8) November 1—reduce entrances and put on mouse guards, repair or replace damaged equipment.

1960 - A Really Exciting Year

THE JOURNAL'S ONE HUNDREDTH ANNIVERSARY

All the major events that have led to the present firmly established beekeeping industry will be given in this volume. The presumable expansion of the industry in the foreseeable future will also be explored. The regular departments will continue as they now are. We have a grand staff of writers. There will be two more regional numbers to tie in with this plan, about the Northeast.

* * * *

Get your renewal in before January first. Get all the new readers you can get because the subscription rates will advance to $2.50 a year. Present rates will continue until then.

Raymond Presnell (article below) demonstrates his method of grafting at a meeting of the State Association at Valle Crusis. "A little time, a little money; a lot more time, a lot more money" Raymond says. (Eaton photo)

Geo. Vaught, Winston-Salem, is a sideliner with about 50 colonies. His main interest, as he puts it, is "To head for the hills" each year for the sourwood flow. This 40 mile operation pays off in premium prices at his service station. (Eaton photo)

FROM THIRTY YEARS' EXPERIENCE

by Raymond Presnell, Banner Elk

My remarks are based on thirty years of continual experience. In producing sourwood honey I have moved apiaries as far as fifty miles into Tennessee and east into Caldwell and Wilkes counties in seasons when sourwood gave a crop since it was generally distributed over the entire area. The average was a good flow about once in seven years; average, once in five years; poor, once in three years. This gives us four flows in eight years.

Weather plays an important part as well as whether the bees can fly freely or not. I have never seen a year that sourwood didn't have plenty of bloom.

I have not decided whether the cause of crop failure is one or several things. I have noticed in seasons when there is no flow that there will be tiny black specks in the bottom of the flower that gives it a grayish mildewed appearance. It may be possible that this is a fungus in the nectaries that causes the bloom to drop prematurely. In most cases when there is no flow, the flowers will not be pure white as they are when there is a flow.

Another source of suspicion are moths that I first saw about ten years ago, so numerous and seeking nectar so eagerly that the supply was greatly reduced and in these seasons the bees get little from the bloom. The first time I saw this was in 1949 in my own yard. One evening about dark I heard the blossoms of the sourwood peppering down as though they were being visited by insects. I got my flashlight and found hundreds of pairs of shiny eyes moving through the branches, crawling over the blossoms, seeking nectar. I have never seen so many bees or other insects on sourwood since. Practically all of them were about the size of large wax moths. I have seen them also since although I got a good crop in 1950 and also in 1951. It may be that sourwood yields at night and the moths get the nectar. Also they may damage the nectaries with their tongues and cause the black spots I mentioned.

We have another case with arrowweed and goldenrod where yellow black bugs like lightning bugs gather nectar in the daylight. They stay on the flower around the clock but they seem to be active only in day. The bees have not worked arrowweed here because of them for the last fifteen years. They become more numerous as goldenrod appears. A dozen or more of them eagerly crawl over each flower all day long and the bees stay in the hives.

In the fall of 1958 was the first time in fifteen years the bees worked goldenrod. There was a light frost after ten days when the bugs were getting their nectar, then they disappeared and we had a week of nice weather and the bees really packed the nectar in their brood chambers as fast as I ever saw them.

I believe disease and insects affected the sourwood area during the last few years and that is the reason for crop failures. I am sure it would be nearly impossible to overstock the sourwood area when it does yields freely.

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We have a plan that will help you earn some money and at the same time do a real good turn for some of your beekeeping friends. Since the subscription price will be $2.50 a year January first, your friends can renew their subscription now at the present price of $2.00 and new subscribers may have a bonus of these two Southeastern issues, October and November. Write us now and get all the details of the plan.

Western North Carolina

by GERALD C. SITTON, Brevard

A report about all the honey produced in these hills for the past two years would not make a decent paragraph in "random thoughts." Here in the mountains of western North Carolina the beekeeper looks to sourwood which begins about July 4th and lasts through the month; when there is a flow. We are willing to work hard to get a few pounds of this, the finest of all table honey, but it is not too dependable.

The first flow here of importance in the spring is tulip poplar about the first of May. Along the French Broad River farm area, the clover is a help and there is nectar from blackberries, huckleberries and huckberries. The latter can be found only at higher altitudes where the timber has not all been cut out for lumber. There is some basswood and sumac around the old fields and pastures, but not much. The fall weed flow in the farming area is good enough some years to provide a few pounds of dark honey which is always left on for winter.

There are no large outfits in the mountains but a large number of small beekeepers.

Queens do not last as long here as they should. There are many queenless colonies in early spring. This may be due to the high altitude. We have had disease around a few times but now I think it is under control.

Regarding Sourwood

by H. J. Rosenkranz, Hayesville, N. C.

My experience with sourwood dates back about six years when I had only one colony to the present time when I have 250-300 colonies. During that time I have had two years of crystal clear crop; the others the color of Schlitz beer but all of wonderful taste.

Our problem in the southwest part of North Carolina is to get a consistent crop every year. Some years there's a wonderful bloom but very little nectar; then there may be average bloom with good crops. They argue wet or dry weather is against it but I have made good poundage in both. I do not believe anyone knows why sourwood yields in some years and not in others.

The best precaution that I can give is that every colony must have a good queen and plenty of bees in the working force. Just plain good management. Why we get a crop here and a failure over in the next counties north, I do not know. The demand for sourwood is strong everywhere. I could sell three times my present capacity. I am a step ahead of the mountaineer beekeeper because he does not have the right equipment and he does not know how to pack his honey.

South Carolina

by W. A. STEPHEN

South Carolina is called the Palmetto State, but there is only a small area in the southeast corner where palmetto trees produce a surplus of honey. This is the cabbage palmetto, the saw palmetto producing very little, if any, surplus.

As with the other states in the Southeastern group which extends from the ocean to the mountains, South Carolina has a Coastal Plain, Piedmont, and Mountain region.

The Coastal Plain occupies about half of the state in the lower part of which tupelo, black gum, gallberry yield the main honey crop. In the cultivated areas, cotton and Mexican clover may produce surplus, but honey from the latter is of poor quality and off-flavor. It is a big help in the production of package bees however, as it provides stores for wintering. According to Mr. W. H. Purser of Clemson, the area farther inland, the Upper Coastal Plain grows sparkleberry which contributes a good deal of honey. It is said to be of reddish color and of fair quality.

The Piedmont occupies most of the upper half of the state. Here tulip

M. R. Robbs, Gaffney, South Carolina, questions George Vest of the Dadant Lynchburg Branch Office concerning the merits of the comb-honey frame. (Eaton photo)

"Dinner on the Grounds," an important part of beekeepers' meetings. This one was at the Babcock Honey Company's plant at Columbia. (Eaton photo)

South Carolina State Fair exhibits in 1953. Left to right, L. J. Jordon 1st; T. P. Gaskin, 3rd; I. T. Hepp, 2nd. (Photo from Steve)

poplar provides most of the surplus. Excellent table honey is produced from legumes, especially the hairy vetch and Ladino clover. Sumac yields some in mid-summer.

While Will O' the Wisp is usually associated with lower lands, it may be used allegorically for the sourwood honeyflow. Many beekeepers move to the mountains for this illusive sourwood honey, which yields only once in several years. Tulip poplar honey, reddish in color, comes in prior to sourwood. Occasionally bees may work the mountain laurel which produces a hot honey—one that burns the throat although at first tasting favorably. In the case of most migratory beekeepers, who have learned this they do not move their bees to the mountains until after these blooms have ceased to secrete nectar.

Because of the variation in altitude and distance from the ocean, there may be as much as 90 days difference in the blooming period of blackberry, for instance. In the lower Coastal Plain and in the mountains up until mid-summer, the blooming periods are later at the higher elevation than farther east and south. After midsummer, plants bloom in the mountains earlier than in the Coastal Plain.

While South Carolina has the fewest colonies in the southeastern section except Maryland, there is great potential, both for the production of package bees and queens and for honey production. Purser states that South Carolina might well be called a sleeping giant from the honey producing standpoint.

BEEKEEPING IN SOUTH CAROLINA

by **W. H. PURSER**, Clemson College

The fact that the state extends from the sea coast to and into the mountains gives it a wide variety of honey plants and types of beekeeping. Sassafras Mountain in upper Pickens County is one of the higher elevations in the Blue Ridge range. Abundant rainfall ranging from 50 inches of rainfall in the center of the state to 75 and 80 inches in the mountains and along the coast furnishes plenty of moisture for the honey plants.

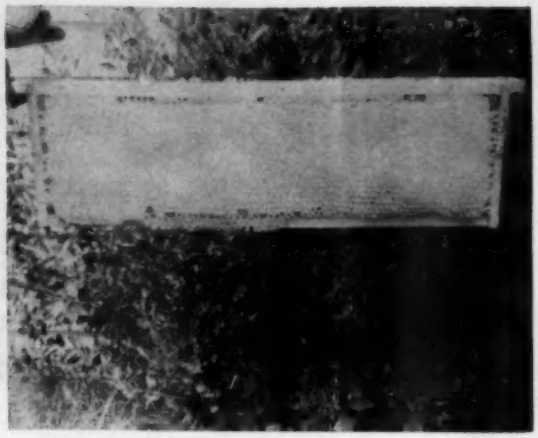
Migratory beekeeping is on the increase. Beekeepers are transporting bees into the mountains for sourwood honey by the hundreds. Some moving is being done to get the crop of vetch honey in the Piedmont section of the state. The most recent development in migratory beekeeping is the move into the soybean section of the state to get the beautiful soybean honey. This plant is yielding as high as 50 pounds per colony in some areas.

The package and queen bee ship-

Honey Exhibits at the State Fair in 1957. (Photo from Purser)

Johny Purser, son of W. H. Purser, extracting honey at 9 years of age.

Demonstration of queen rearing at beekeepers' Short Course, Clemson College. Placing cell on comb (W. H. Purser).



Comb of gallberry honey made in Hampton County. Gallberry in the background. (Purser photo)

pers in the state are on the increase. South Carolina is probably the nearest producing section from which the eastern part of the United States and Canada can purchase their packages. In fact, many of our packages leaving the state are picked up by the purchaser in trucks. The package buyers bring their cages down and get them refilled each year. At present there are six shippers of package bees in the state and twelve queen breeders.

Since some of our larger beekeepers have started migratory work they are averaging well over 100 pounds per colony. The move to the mountains for sourwood has been one of the popular moves for some years. However, this move often proves worthless. For the past two years very little sourwood has been gathered. The tulip poplar is still possibly our number one honey plant in spite of the pulpwood and sawmill business. Gallberry is one of our more desirable honeys in the costal area. The tupelo gum seldom produces a surplus, but when it does, the honey is very delicious. The holly trees are good producers in the lower part of the state. This honey is light in color, but some beekeepers think it is responsible for the off-flavor honey that they get. In the central or sandhill section of the state, the sparkleberry or huckleberry produces a good crop of dark red honey some years. This honey tastes and smells somewhat like sorghum syrup. Hairy vetch seems to produce heaviest in the slate section of the state. Although no honey comes from the cedar tree, the vetch seems to produce more honey in the heavy cedar section of the state.

Southwestern Part of State - Estill. Blooming Dates of Honey Plants - Records of 1944-45. By W. H. Purser.

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
------ Red Maple											
	-------- Yellow Jasmine										
	--------- Willow										
	--------- Crab Apple										
		------------- Blackberries									
		---------- Tulip Poplar									
		-------- Tupelo Gum									
			------------------------- White Dutch Clover								
			------ Sparkleberry								
				------- Gallberry							
				------- Red Shenk							
					------------ Cotton						
					------------Soy Bean						
					--------- Pepper Bush						
					---------- Partridge Pea						
						---------------------- Mexican Clover					
						-------- Black Sumac					
						--------- Smart Weed					
							------------------ Flat-top Goldenrod				
							------- Summer Farewell				
								-------- Sea Sage			
									------------ Goldenrod		
										--------- Golden Aster	

The educational set-up in the state as concerns beekeeping is still far from perfect. There is practically no research on beekeeping being done at present. One class is being taught here at Clemson College, with classes averaging from 10 to 20 students. There is one inspector for the state and this is not full-time work. We have one acting bee-specialist with the Extension Service. Several of the agricultural teachers and county agents have F.F.A. and 4-H boys keeping bees as a project.

The percentage of diseased bees in the state is very low. European foulbrood was once one of our big handicaps. Now we seldom see a case of European. Terramycin has been possibly helpful with European control. American foulbrood, has taken its toll, but is not causing much alarm as of now.

Much of the honey in South Carolina is sold locally. Some of the larger packers move honey out of the state. The fruit stands are selling honey for the small beekeepers, but the larger packers depend on the supermarkets. The two most popular packs of honey are the 2½ pound widemouth comb pack and the 1 pound extracted. The average price received by the producer wholesale is 25 to 30 cents per pound.

Georgia

by W. A. STEPHEN

Georgia, the largest state east of the Mississippi River, may be divided into three areas, the Coastal Plain, Piedmont and Mountains. The mountain area boarders on Tennessee, North and South Carolina and supports a small amount of commercial beekeeping and some migratory operations. As in the Appalachian Mountains northward, most beekeepers work for the sourwood honey. Even when this tree, also called lily of the valley, yields heavily, which is only once in several years, very little sourwood honey gets out of the area. It is packaged and sold to the local trade, the surplus being picked up by tourists.

The Piedmont Plateau may be considered as marginal. At one time beekeeping was practiced extensively in mid-Georgia, before the advent of the boll weevil. Since then, according to Mr. A. V. Dowling, Valdosta, poisonous insecticides have been used so extensively that most colonies were moved either to north or to south Georgia. However, he notes that beekeeping is increasing in mid-Georgia as large acreages are being converted to clover pastures. In this area there is a better summer honeyflow than nearer the coast and beekeeping seems to be coming back.

Most of the commercial beekeeping in Georgia is in the Coastal Plain. Mr. Herbert Studier, a beekeeper in this section, says that according to geologists the lower coastal plain once was the ocean bottom and is swampy for 50 miles or so in from the coast. About two-thirds of the queen breeders and package bee shippers are located in this area. While red maple blooms quite early, beginning the early part of January, yellow jasmine (jessamine) blooms through the whole of February and March. This causes the death of many young bees, especially of the lighter colored races. During the early part of June, the summer titi comes into bloom and the blue brood makes its appearance. This further retards colony development and queen production.

It is estimated, according to Dowling, that there are over 100,000 colonies located within 100 miles of Valdosta which is the center of the area. Migratory beekeeping is practiced extensively there as bees have to be moved from spring to summer to fall locations.

The largest amount of honey is produced in the area around Homerville, which is near the Okefenokee Swamp. The major honey plants are gallberry, holly, tupelo and palmetto with crimson clover, titi, black gum, pepper bush, calico weed, Mexican clover, flattop goldenrod and sea myrtle supplementing these flows. After the early honeyflow is over, bees must be moved north to clover fields or into Florida for build-up on partridge pea and snow vine.

Georgia's 75 certified package and queen shippers have insisted on efficient inspection. Georgia law does not permit the use of sulfa for disease control. At present the disease rate is less than 0.4% of the total bees inspected. Permits to enter Georgia with bees on combs are granted to beekeepers from states which have a reciprocal law.

Also a close-up of gallberry bushes. This is the main honey plant in the region around Hahira. (From Louise Passmore, Dadant Branch)

Swamp picture, typical of the area around the Okefenokee where there are quite a few beekeepers.

BEEKEEPING IN GEORGIA

by GARNETT PUETT
Dadant Branch Office, Hahira

A few years ago an Atlanta glass jobber reported that he delivered twenty carloads of honey jars into one town in South Georgia—Homerville. This would indicate that in one season, some 60,000 cases of honey were packed in that town, which has a population approaching 2,000! The preponderant amount of this honey was chunk comb, and was produced from a swamp shrub called gallberry. It is a variety of holly and yields a light amber honey of excellent body and flavor. Pure gallberry honey makes a particularly desirable chunk comb package, for it is almost free of granulation. Most of Georgia's annual production comes from this plant, and is produced near Homerville and Waycross in the yellow pine forests which surround the Okefenokee Swamp.

Beekeepers in this area are generally considered "experts" in the production of fancy chunk comb. They crowd their colonies in anticipation of the honeyflow, which seldom lasts more than two weeks, and put supers of cut comb foundation on every colony. Their average per colony is not so high, but the quality is unexcelled.

They must work very hard, these chunk comb honey producers, for though gallberry abounds in the area, there is little else available for the greater part of the year. They must move their colonies several times during each season in order to have them at peak condition when the short flow finally comes. There is almost no cultivated land around the swamp, unless the cultivation of yellow pine for turpentine and pulpwood be considered, so the first move must be in order to gain winter stores. The most popular plant for this purpose is Mexican clover, or pursley, which springs up in corn fields in south central Georgia during July. This plant furnishes nectar continually until the first "hard" freeze kills it, and bees placed within range of it usually go into winter quarters in very good condition.

Some beekeepers in southern Georgia maintain that a single-story colony will winter just as well as one with a super of honey on it, that the bees will use whatever they have available in the spring and get by with it. Most, however, winter with one shallow super above the brood chamber. About half the colonies in the area are eight-frame, which would make additional storage room necessary even in this climate where a ten-frame will survive without it. The explanation for the eight-frame usage is that the bees are croweded into cut comb supers quicker when the gallberry flow comes. Double brood chambers, even shallow supers for extra brood room, are almost nonexistent.

With the first signs of warm weather, sometimes as early as January first, the maple tree furnishes pollen and some nectar. Colonies begin to awaken and brood rearing commences. This is usually no blessing, for the interval between the blooming of maple and that of the next nectar source may be as long as two months. Thus the colonies may gain in population much too early, only to starve almost entirely within three weeks. To combat this problem, Georgia beekeepers began to invade Florida for a source of nectar for a spring build-up. Some move to the extreme western part of Florida, around Tallahassee, for titi, which is a shrub of almost tree height that blooms along river and creek banks.

Most of the beekeepers who move, go into the orange groves, which occasionally furnish surplus honey for the market in addition to that necessary for the desired build-up. The most experienced beekeepers generally concede that the honey brought back from Florida is economically negligible unless there has been an exceptionally long flow from the citrus trees. The Georgia bees are usually too weak to gather surplus honey during the blooming period in Florida. Citrus has usually ceased to yield around the end of March, at which time there must be another movement of bees into Georgia.

This time, some beekeepers set their colonies near fields of crimson clover, which begin to bloom about the tenth day of April. Crimson clover is found all over Georgia, but apparently only that growing in the central part of the state is capable of producing even a fair nectar flow. Soil and climatic conditions in other areas are unsuitable. A few beekeepers receive money for these pollination services, but most are content with whatever living their bees are able to glean from the fields.

The gallberry flow immediately follows the clover, in fact the two usually overlap so that some beekeepers do not get from one to the other quickly enough. Because of this factor, most of them come directly from Florida to their gallberry locations and take their chances while awaiting the flow. Black gum trees furnish sufficient nectar to keep the bees well fed between the citrus and the gallberry. There are two major problems that confront the beekeeper during this wait for the gallberry flow: the bees have built up to peak strength on the citrus and they are likely to swarm, especially those confined in eight-frame brood chambers. Even if they are prevented from swarming, they are likely to dwindle in strength because of having reached their peak condition too far ahead of the main flow. Many increases are made during this period to combat swarming and to take best advantage of the crowded condition of the colonies.

Gallberry begins to bloom during the latter part of April or the first of May. Most beekeepers have had their supers of cut comb foundation ready since March, and begin at once to add room to all their colonies. Although gallberry is a swamp plant, it does not yield honey to a very large extent if there are frequent rains during the blooming period. Cool nights, which follow rainy days, usually cause the blossoms to "blight," or turn almost black.

When gallberry has ceased to yield, saw palmetto sometimes affords enough nectar to finish out supers of chunk comb that were started on gallberry. This honeyflow is not dependable annually, but it does usually help raise the per colony average of the Georgia beekeeper. After this flow, bees must be moved once again to the fall clover locations, and the cycle has begun again.

There are, of course, minor crops of honey produced in other areas of Georgia, such as the very undependable sourwood of the mountains of northern Georgia, but the most important crop is gallberry. It is this weed that has made Georgia the important beekeeping state that it is, and that has made Homerville, Georgia, the chunk comb honey capital of the world.

Typical eastern Georgia bee yard location. (Photo from Louise Passmore, Hahira.)

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THE BEEKEEPERS OF GEORGIA

by HERBERT STUDIER
Shell Rock Honey Farms, Guyton

Beekeeping in Georgia is generally divided into two types, the honey producer and the queen and package man, and more recently the royal jelly producer, although for the time being at least these fellows are inactive. Until such time as research is released the present romance of this product is over.

The Georgia beekeeper in many ways has it a lot tougher than his fellow beekeeper in states farther north. This can also be said for the Georgia farmer, for here in the South we are troubled with many pests unheard of in the northern states.

Rot, decay, and termites are ever present problems, although improved methods of rot proofing and termite proofing are coming into use. Due to the damp warm climatic conditions, the replacement rate of bee equipment is very high. Wax moths are also a serious problem and the better equipped Georgia beekeepers have fumigating rooms to care for combs while off the bees.

While a bumper year comes about once in five years, the rest of the time the average Georgia package man keeps his colonies in single stories. Fifteen years ago when I first came to Georgia I had a hard time believing this but I too found this to be the best method.

We operate in what is known as the Peidmont or coastal area of Georgia. According to geologists, this was once ocean bottom and is swampy for 50 miles or so in from the coast. Many of the poorer fields look just like ocean sand, while the lower lying land has a good accumulation of humus. In this area beekeepers are plagued by yellow jessamine which blooms through almost the whole of February and March and makes good queen cell production next to impossible. Colonies can be found during this time with bottom boards covered with dead and dying young bees. After this is over, conditions are good for almost two months. It is during this time that we raise our queens. Then from about June 1 to 15 another poisonous condition lasting for about a month starts. This is known to beekeepers as blue brood, the cause of which seems to be of some doubt, some beekeepers contending that it is caused by summer titi, others contending that it is caused by juice from blueberries which ripen at the same time. Theoretically the birds pick open the ripe berries and the bees gather the juice. At least the dead brood has the exact color of this berry juice.

The beekeeper located farther inland on the pebbly clay soil seems to fare better since he is relatively free of jessamine and blue brood poisoning. This pebbly clay farming area produces a much better summer honeyflow and is good for the package man since colonies can fill up with honey after shipping season is over. While beekeepers in the swampy area get a heavier early honeyflow, and most of the honey producers are located in territories of this kind, it is frequently necessary for them to move their bees to pebbly clay areas because of the complete lack of nectar and especially pollen during the summer months.

Some honey producers can get averages of from 80 to 100 pounds per colony but these locations seem to be few and far between and the honey producers seem to be in the minority in this state.

The state of Georgia has what is known as a reciprocating bee law. Quite a few beekeepers operate North-South but permits to enter Georgia are granted to only such states which permit the entry of bees from Georgia. Some years ago when other southern states were closing their doors to bees on combs the state of Georgia was broadminded enough not to follow suit in clamping down a complete embargo, but inserted a reciprocating clause which is about as fair as any arrangement could be.

The Three Sections of Georgia

by A. V. DOWLING
Valdosta Honey Company,
Valdosta

Georgia is divided into three beekeeping sections: south Georgia, middle Georgia and north Georgia. There are twenty-five or more honey plants that yield a surplus. Most of the package and queen shippers and gallberry and tupelo chunk honey producers are in the fifteen counties in south Georgia. It is estimated that there are over 100,000 colonies within 100 miles of Valdosta which is the center of this area. More colonies are concentrated here than any similar small area east of the Mississippi.

Migratory beekeeping is practiced extensively as bees have to be moved from spring to summer, and to fall locations, to get enough pollen for brood rearing to continue through the year. The principal honey plants in south Georgia are maple, titi, andromeda, Indian holly, black gum, crimson clover, tupelo, gallberry, saw palmetto, pepper bush, calico weed, Mexican clover, cotton, flat top goldenrod and sea myrtle.

Before the advent of the boll wee-

(Turn The Page Please)

GEORGIA —

vil, beekeeping was extensive in middle Georgia. Since then, insecticide poisons have been used so extensively that most bees were moved to north Georgia or south Georgia. Recently, however, beekeeping has again increased in middle Georgia as large cotton acreages have been converted into clover pastures. The principal honey plants are black gum, tulip poplar, sumac, bitterweed, Mexican clover, white clover, crimson clover, goldenrod, and aster.

Beekeeping in north Georgia is about as it has been for twenty years. The principal honey plants are fruit and berry blooms, persimmon, black locust, tulip poplar, white and crimson clovers, basswood, sourwood, vetch, sumac, goldenrod and aster.

Because most of Georgia's main honeys do not granulate readily a large volume is packed as chunk comb and most of Georgia's honey is from trees and shrubs. Tulip poplar, crimson clover, sourwood, tupelo, and gallberry are considered among the best table honeys. The earliest honey plant in the spring is redbud maple which blooms about the first of January and the last one is sea myrtle which blooms until December.

Georgia has seventy-five certified package and queen shippers, who operate over 60,000 colonies and many thousand queen nuclei.

The Georgia law does not allow the use of sulfa for AFB and the state inspection records show less than one-fourth of one per cent of this disease over a twenty-year period.

Alabama

The Beekeeping Industry In Alabama

by W. A. Ruffin

A. P. I. Extension Entomologist, Auburn, Alabama

The author showing a comb of honey from a colony producing 150 lb. surplus from crimson clover near Auburn.

Beekeeping in Alabama affects a lot of people. Thousands that live in towns and in the country keep a few colonies of bees as a hobby and for the production of honey for home use. Probably not more than two-hundred individuals derive most of their income from bees and would be classified as commercial beekeepers. Most of these manage their bees for the production of package bees and queens. The greatest interest in bees at the present time is due to the need for them for pollination purposes.

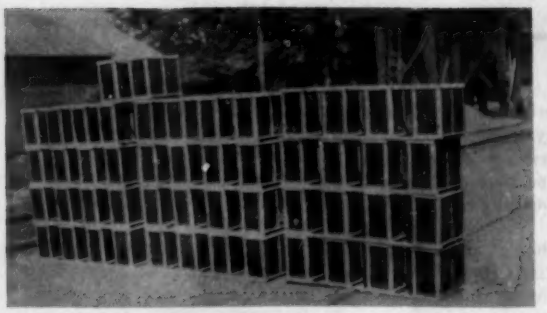
The income from bees in Alabama is about $1,000,000 annually. About half of this amount comes from the sale of live bees and the other half from the sale of honey. The census shows that there are about 200,000 colonies of bees in Alabama at the present time. Honey production amounts to only 20 to 30 pounds per colony. The average production of the better beekeepers runs about 100 pounds per colony.

Prior to 1900, practically all of the bees were kept in box hives or gums. It is likely that W. J. Jenkins, of Wetumpka, Alabama, made and sold the first movable-frame hives in this state. This man's record, as one of the early leaders in beekeeping, was marred by the fact that he was one of the first to have bees infected with American foulbrood. Not knowing any better, he sold bees on combs that were infested with the disease over a wide area. His bees and most of those he sold were all killed by foulbrood.

A new era in beekeeping in Alabama started in 1909 when W. D. Achord moved from Florida to Fitzpatrick, Alabama. He was mainly interested in honey production and he was impressed with the thousands of acres of white sweet clover *(Melilotus sp.)* that he found growing in the area. However, since melilotus does not bloom until June, Mr. Achord had a lot of trouble with his bees swarming. He tried to solve this problem by shipping comb nuclei to northern beekeepers. The demand for nuclei and queens grew until in 1912 he employed H. C. Short, of Ohio, to graft and produce queens for him. Because of foulbrood, these men were concerned about shipping bees on comb. So they wrote to the A. I. Root Company, for a sample of their combless package cage. In the spring of 1912, Mr. Short made up 50 of these small cages that held only one-half pound of bees. The bees were shipped with the same food that is used in queen cages today. These small packages developed rapidly when placed in hives in the North, and the package business in Alabama really began to grow. In the April, 1914 issue of Gleanings, M. C. Berry, Montgomery, Alabama, advertised package and queen bees. Jasper Knight, Hayneville, Alabama, started in the package and queen business about 1916. J. M. Cutts, Montgomery; W. E. Harrell, Hayneville; and many others were in the package and queen business by 1920. It was said then and probably is true today, that more live bees are shipped from the area within fifty miles of Montgomery than from any other like area in the world.

Most of the bees shipped from Alabama go to Canada and the midwestern states. The movement of bees and bee equipment interstate soon caused more concern about bee diseases.

The Alabama Beekeepers Association was organized in 1922. The main



A shipment of packages from Alabama to Canada from the apiaries of H. C. Short of Fitzpatrick, the oldest package and queen producer in the state. (Ruffin photo)

R. M. Pugh, Tinsdale, Saskatchewan, former Provincial Apiarist, with truck load of packages, ready to go, from the apiaries of W. E. Harrell, Hayneville. (Ruffin photo)

purpose of the organization was to get laws passed by the state legislature that would help prevent the spread of foulbrood. The first state bee law was passed September 27, 1923. The first inspection of bees for foulbrood was done in the spring of 1922 or 1923. This work was done by Professors J. M. Robinson, and F. E. Guyton, of the Zoology-Entomology Department, at Auburn. Most likely neither of them would have known American foulbrood if they had found it. For that reason, they got A. D. Worthington, who later worked as an inspector in Iowa for a number of years, to come over from Mississippi to help them on their first round of inspection. The Alabama State Department of Agriculture employed Thomas Atchison in 1924 to do inspection work. He was the first full-time state apiarist in Alabama and served until his death in 1940.

The Alabama bee laws are based on the feeling that American foulbrood can be handled in only one way. That is by destroying it with fire wherever it is found. The law requires that a colony of bees found infected with the disease must be destroyed immediately by burning. No bees on combs or used bee equipment can be shipped into Alabama under any conditions. Because of the strict enforcement of these laws, it is a rare thing to find even one colony of bees infected with foulbrood. I have worked with bees in this state for thirty years and have never seen an infected colony of bees.

Geographically, Alabama can roughly be divided into four major areas. By so doing, it is possible to give some idea of flora and the possibility of honey production in the area. Across the northern end of the state there are nine counties that are called Tennessee Valley counties. The land in these counties is largely flat, level fields with red soils. Until recent years the area was devoted almost entirely to the production of corn and cotton and was not suitable for honey production. Increased interest in the production of livestock in this area has resulted in the planting of crimson or white Dutch clover on most farms. Blooms of these clovers, tulip poplar, and some sourwood furnish most of the nectar in this area. The extent of beekeeping here is a few colonies on many farms kept for honey production.

South of the Tennessee Valley and extending down to Montgomery is a big area that includes the Piedmont region, the Coosa Valley and the upper coastal plains. The area is mountainous, but many farms in this region grow a large acreage in crimson and some white Dutch clover. Tulip poplar, sourwood, and clovers are the sources of nectar here.

The black belt covers parts of twelve counties in the central part of the state extending from the Georgia line on the east to Mississippi on the west. This area is made up mostly of lime soils. This used to be the melilotus area but heavy grazing has killed it out except along roadsides. In its place there is now growing thousands of acres of white Dutch and crimson clovers and caley peas. Wild flowers include asters, goldenrod and partridge peas. Most of the package and queen bees are produced in this area.

South of the black belt and extending to the Gulf is the lower coastal plains. The area is generally level, with sandy soil and many streams. Most of the nectar in this area comes from wild plants. The important ones are gallberry, titi, tupelo gums, and pursley. This section of the state is second only to the black belt in the production of package and queen bees.

Crimson and white Dutch clovers are grown in this state for pasturage and seed production. Within the past ten years the acreage has been greatly increased in all parts of the state. Many farmers that are producing seed have felt that their yields were going down because there were not enough bees for all of the clover. For this reason, George H. Blake, Jr., Entomologist of the A. P. I. Experiment Station, started some tests to determine the effect of honey bees on seed yields of crimson clover. These tests have been conducted over the past three years. Results show that there is an increasing effect on seed yields when from one to five colonies per acre are placed in or around clover fields. These tests have shown that one to two colonies per acre will increase the yield of seed in good clover about 400 pounds per acre and the bees may store as much as 100 pounds of surplus honey.

County agents' reports for 1958 show that over 26,000 colonies of bees were used to pollinate clovers in Alabama. It is quite possible that the need for bees for pollination purposes may create a new demand for a lot of bees.

Subscription Rates Going Up

The yearly rate on the American Bee Journal is advancing to $2.50 a year. In order to give old subscribers a chance to subscribe at the old rates, the new rates will not be effective until Jan. 1, 1960. Until that time you are entitled to the old rate of $2.00 a year, 3 years for $5.00.

We had hopes of maintaining the old rate, in fact have maintained it nearly two years when an advance would have been justified. On the above date the new rates of $2.50 a year, three years for $6.00 will be effective.

The old rates have been held through a ten year period. So subscribe today at the old rates. We recommend the three year special of $5.00 for three years.

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Mississippi

by W. A. STEPHEN

The great part of the state of Mississipppi is marginal as far as beekeeping is concerned. With the exception of a strip along the Mississippi River, varying from 20 to 70 miles in width and an area in the southeast corner about 80 miles wide and extending inland about 100 miles, there is only the Prairie Belt area about 25 miles wide and less than 150 miles long extending north-northwest in the northeastern section of the state where beekeeping is carried on profitably.

There are few honey producers with more than 50 colonies, their production being largely consumed locally. The larger beekeepers are producers of package bees and queens. Probably one of the reasons for the fewer beekeepers throughout the large central area is the fact that for several years insecticides used on cotton killed out practically all of the bees. There is a possibility that with reduced cotton acreage and the use of different insecticides, that beekeeping may come back in this area. Many acres of grassland are being used for pasture and this may help out the beekeeping situation.

In the primary honey producing area, along the Mississippi River, especially in the Delta region, many acres have been converted to pastures. Here, by following good beekeeping practices, beekeepers may average from 150 to 200 pounds per colony. There are large acreages of white Dutch clover and hairy vetch for the main honey crop. Cotton bloom follows closely after the clover bloom and the black Delta soils make cotton honey production possible. Fall honey plants, including goldenrod, generally yield enough for wintering.

Secondary honey producing areas would include the central Prairie Belt, the southeastern section and a strip along the lower Mississippi. In the Prairie Belt area, some of the largest package bee shippers and queen breeders carry on their business. White sweet clover formerly grew abundantly in this area, but now other clovers are found in the pastures. Spanish needle, bone set, and aster augment the goldenrod flow in the fall.

In the southeastern area, commercial quantities of honey are produced and this is also a good section for package bee production and queen rearing.

In the area along the lower Mississippi, legume seed is produced and here some migratory beekeepers spend the winter. There is an abundant source of pollen and nectar during the early spring months, perhaps even some surplus honey being produced. Mississippi has the fewest colonies per acre of any state in the southeastern group.

MISSISSIPPI SPECIALIZES

by HOMER TATE

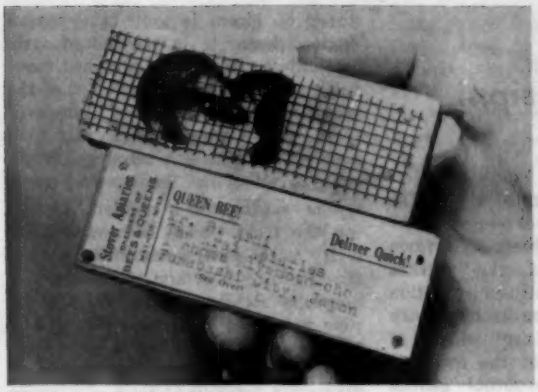
Inspector of Apiaries, State College

Fifty years ago it was quite common to find a few colonies of bees around the farm home. They were generally kept in box hives and robbing time was quite an occasion. The farmer did not ordinarily have any equipment to work with bees except that which he could make, but beekeeping was much more widely practiced than it is today. Rarely is the farmer a beekeeper in our state today. Our bees are kept by commercial beekeepers and hobbyists. Our hobbyist beekeepers are generally not farmers.

Commercial beekeeping in Mississippi consists primarily of the production of package bees and queens by men who have spent a long life in this business. Only one breeder in the state has gone out of business during the past fifteen years. A few new ones have come into the business. Some years they have been discouraged, but at this time they all seem to be in good spirits, having had a fair amount of business this season. They have their problems, transportation of packages undoubtedly being one of the most important. Railroads pulled off their passenger trains and left the package bee shipper with no express service without hauling his bees long distances. Some of our largest shippers have trucked their bees as far as 70 miles to a railroad giving express service. The bulk of our package bees moves out of the state by truck but this does not take care of the small package buyer. We have the promise of

A class in apiculture at the Mississippi State University, State College. (Photo from Ross Hutchins, State College.)

Preparing queen bees in cages for shipment at the Stover Apiaries, Mayhew. (Hutchins photo)



Close up of queen and workers in shipping cage. (Hutchins photo)

Preparing packages of bees for shipment at the Stover Apiaries. (Hutchins photo)

express service being improved next year.

Quite a number of our queen breeders are located in the black prairie belt of the state which consists of all or part of the following counties: Lowndes, Kemper, Noxubee, Monroe, Clay, Oktibbeha, Chickasaw and Lee counties. Other queen breeders are located in southeast Mississippi, in Forrest, Marion, Pearl River, Stone, Jackson, George and Wayne counties. These areas are well suited to package bee and queen production because of climate and abundance of pollen and nectar plants over a long season. Another advantage is that most of the bees in these areas are owned by the queen breeders, thus giving the breeder better breeding control.

There are very few commercial honey producers in Mississippi. We have no honey packing plants. There are many hobbyists who pack and sell their honey in their local areas, much of it direct to the consumer. We have a wide range of colors and flavors of honey. Our white clover honey is light in color and mild in flavor. Gallberry honey, produced in southeast Mississippi, is also a very fine honey. Cotton honey is fairly light in color, has a good flavor and blends well with other honeys. We also produce some dark colored honey which has a good flavor and is preferred by many of our people.

Our major honey plants are white Dutch clover, cotton, and gallberry. There is good indication that the soybean may be one of our better honey plants. It produces a light colored honey with a fine flavor. Indications are that the type of soil on which the beans are grown has a great deal to do with nectar secretion. We are trying to find out more about the possibilities of this plant as large acreages are grown in our state. The blooming period is about the same as that of cotton, thus making it difficult to determine the source of nectar. Crimson clover and vetch are fine honey plants but are not generally grown in large acreages. We have a great many minor honey plants, both cultivated and wild.

We have several large beekeepers who winter their bees in Mississippi and move back to South Dakota, Minnesota, Kansas, and Nebraska in the spring to make a honey crop. One beekeeper migrates here from Colorado with his bees. Some of these beekeepers have been wintering in the same locations in this state for twelve or more winters. Ordinarily they carry back north about twice the number of colonies they bring down in the fall. Others leave colonies here the year round and make nucs from them in the spring to carry back north.

Insecticide poisoning of bees is not a major problem at this time. Some beekeeping is being done successfully in areas where there is wide use of insecticides. We know that some field bees are killed but not enough to prevent the gathering of a fair crop of honey. Rarely are colonies seriously depleted of bees. Many of the insecticides used are highly toxic to bees but it seems that the insecticide acts as a repellent until its strength is spent.

Bee diseases are under very good control. We have some American foulbrood but it does not run higher than about two or three tenths of one per cent of the colonies inspected. All commerical apiaries and several hundred hobbyist apiaries are inspected at least once each year. European foulbrood is rarely seen. Colonies infected with it nearly always show only a very light infection and the disease soon disappears. Nosema apis disease is probably present in most colonies in the spring but seems to disappear during the summer and seemingly does no appreciable damage to the colony.

We believe that Mississippi is a good beekeeping state. It obviously has much greater possibilities of honey production than we are utilizing. We have made an effort this year to interest 4-H Club boys in beekeeping. We feel that we need more young people to become interested in beekeeping. We feel that we need more people keeping bees in order to ensure plenty of bees for pollination of crops. We expect to double our efforts in this field next year.

Send Those Names - -

Any reader who lives in any of the states of the Great Southeast can add to the length of his subscription by sending the names and addresses of any beekeeping friends, whether or not they are subscribers. Also send a short statement, with the names and addresses, telling why you think they should subscribe to ABJ. We will ask these folks to extend their subscriptions or become new readers. We will offer the new ones a copy of both October and November, telling the story about the southeast, with no extra cost - 14 months instead of 12.

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Mississippi . . .

Varied Conditions in Mississippi

by **N. C. JENSEN**, Macon

Mississippi probably has as many or more varied conditions affecting general beekeeping in its various categories than any other state, with the possible exception of California and Florida. Geographically, the state can be divided into four rather distinct areas, each providing quite different soil types, floral sources, and even moisture conditions suitable for each.

Many changes have taken place in beekeeping practices, particularly in this northeastern part in which most of the pioneer beekeepers are located. In what is known as the prairie or Black Belt, much of it underlaid with limestone, sweet clover flourished for a number of years, and from 1910 to 1925 yields of 100 to 150 lbs. of white comb honey were not uncommon. With the almost disappearance of sweet clover, and the advent of the package bee business in the late teens, coupled with the terrific expansion of honey production in many of the northern states, most of the commercial beekeepers changed over to queen rearing and package bee production. Smaller beekeepers became discouraged and sold out, so honey production declined rapidly as did the number of beekeepers.

The trend to diversification in farm practices has changed the picture somewhat again. Soil conservation and stock raising have brought with them improved pasture which of course means many of the legumes. However commercial outfits geared to bee and queen production are yet reluctant to convert to honey, for many obvious reasons.

The northwestern or Delta section seems to be making more progress toward honey production, especially in areas where a somewhat judicious use of insecticides prevails or where cotton is being replaced by other crops, clovers and soybeans.

The southwestern or midwestern part has some territory fairly well adapted to the early production of package bees, particularly along the rivers and smaller streams where willow is quite abundant as well as alder, titi and gallberry, some of which afford good yields of table honey. But here again commercial honey production has not progressed far. One of the main reasons may be the fact that after the early spring flurry of bloom is gone, the season settles down to a virtual dearth, and unless colonies are watched carefully, or abundant stores from the crop are left on the hives, many will starve and the wax moth will take over. This last is a scourge applicable to all of the South.

The southeastern portion, including the Gulf Coast, has much similarity to the southwestern except that tree farming has, and is making tremendous strides in the growing of pine trees for future pulpwood and lumber supplies. Many large northern corporations have bought large tracts of standing timber already suitable for pulpwood (cut-over) lands, built huge paper mills and reforesting where no trees are now growing.

Here again soil conservation, and fire protection to keep fires out of growing pines, is also improving the natural bee pasture, mainly gallberry and titi along with numerous other honey producing trees and plants. But here as in other sections of the state there are drawbacks as well as favorable conditions. That is typical of beekeeping anywhere, which has been proved by many, who have found that pastures look greener at a distance. At best, beekeeping is not a "get rich quick game" but is an interesting pursuit and a healthy occupation that will challenge your ingenuity just as long as you live with them.

Florida

by **W. A. STEPHEN**

Nature provided Florida with a variety of honey plants as well as with a variety of climate. From Pensacola in the west, which is a little over 200 miles from the Mississippi River to Jacksonville in the northeast corner and then south to Key West is something over 1,000 miles and provides such a vast gamut of flora that Florida now ranks 2nd in the United States in the number of colonies.

To Mr. H. J. Rahmlow, formerly of Madison, Wisconsin now residing in St. Petersburg, the change is somewhat bewildering because everything is so different. One thing that seems peculiar is that the major honeyflows come from large trees, palms and shrubs instead of from the cultivated fields. This characteristic is typical of the Southeast region, however. Of course, once he got to the area where oranges and grapefruits grow he was amazed at the size of the groves. It was almost incomprehensible to be told that Florida alone produces twice as much citrus fruit as there are apples produced in the entire United States. Because of the nature of the honeyflow from citrus, bees are moved in just about the beginning of the blooming period. After this period is over, the bees are moved to other sites, perhaps as much as 200 miles to black mangrove location. There is overcrowding in much of the citrus area.

A factor that is cutting down on available sites, according to Mr. Paul Cutts of Chipley, is the many thousands of acres of bee pasture being destroyed to make room for homes, factories and highways and to provide pasturage for cattle. Then, too, large land companies are planting vast acreages in pine trees to supply the many paper mills in the state. All these factories may slow down the growth of beekeeping in Florida where there has been marked continued expansion during the past two decades. An effort to help beekeeping is the growing distribution of white tupelo for reforestation.

The Everglades section farther south has suffered little change and because of its nature, may remain good beekeeping territory. In the past few years a dike has been completed on the east side of Lake Okeechobee forming a wide strip between the east coast and the Okeechobee Basin. This dike now keeps flood waters inside the canal systems and protects apiaries from floods.

Mr. D. O. Wolfenbarger of Homestead, says that honeyflows lack intensity and are seldom productive of great yields in South Florida. Most of the surplus honey is produced during January, February, March and April, although there is enough honeyflow during September and October to induce swarming. Queen rearing may be carried out throughout the year.

On the lower west coast of Florida grows the black mangrove according to Mr. John Haynie, Extension Apiculturist. This also grows down the Keys where there may be also some limes grown. However, on the Keys it is a one crop venture for which the bees must be moved in and then out when the bloom is finished.

According to Haynie, there is much migratory beekeeping in Florida among their state beekeepers as well as among those who move in from northern states. Some beekeepers move as many as four times and may get a crop at each move. In west Florida along the rivers where tupelo honey is produced, the hives are placed on platforms thus protecting them from flood and bear damage.

While tupelo honey brings a high price, tupelo is the only source of honey in the flooded area. Following the tupelo harvest the bees must be moved to farming sections where they can maintain themselves and store up some honey and pollen for the winter. Before the next season, the bees are returned to their platforms in the tupelo swamps.

In addition to the tupelo, citrus, and mangrove honeys there are flows from palmetto, gallberry and Spanish needle. Haynie says that a blooming period of the species may vary as much as a month from south Florida to the north central section. This enables beekeepers to take advantage of early flows in building up for the citrus bloom.

As in all states, weather conditions seem to be the most important factor in the production of early honeyflows and in late summer the flows may be affected by hurricanes, floods, etc. Mr. Cutts notes that these same climatic conditions may favor the enemies of the bees such as skunks, toads, lizards, and ants.

Insecticides are increasing hazards. There have been recent extensive campaigns for mass spraying of entire areas in the control of the white-fringed beetle, the Mediterranean fruit fly, and the fire ant. While these insecticides have not killed the colonies outright, they have seriously curtailed the honey crop through the killing off of the field bees.

Florida is the only state in the southeastern area that produces an exportable surplus of honey.

A LOOK AT FLORIDA BEEKEEPING

by H. J. RAHMLOW, St. Petersburg

In recent years, Florida has become one of the leading honey producing states. A northern beekeeper traveling from the clover honey areas into this semi-tropical country will view it with mixed emotions because everything is different. He will not recognize some of the leading honey plants like palmetto, gallberry, tupelo, and mangrove. He may not even see them as he drives along the highways, with the exception of palmetto. Being used to nectar from dandelion, clovers, alfalfa, buckwheat and goldenrod, it will seem strange to find that major flows in Florida are from large trees, palms, and shrubs.

When the northern beekeeper reaches the parts of the state where oranges and grapefruit grow, he will be amazed at the size of the groves and to find that Florida grows about twice as many citrus fruits as there are apples in the entire United States. It will seem as if there must be enough bloom to supply all the honey bees that can be brought into Florida. So he will be astonished to find that already there is overcrowding.

The small beekeeper will wonder if a dozen or more colonies can be kept in one spot all year. He will see places near small citrus groves where there are also palmetto and

(Turn The Page Please)

A. S. Howard, caretaker for 4-H Club Camp Cloverleaf, Lake Placid, taking record of flow for Frank Robinson, Experiment Station, Gainesville.

Clyde Stephens sweeps bees from a comb of honey in University of Florida citrus grove. Clyde studied beekeeping with Dr. Milledge Murphey and graduated in February. Background is valencia orange which blooms normally before the fruit ripens.

other honey plants. In fact, Prof. John Haynie, Florida Extension Apiculturist, says in his bulletin, "Beginning Beekeeping," it is estimated there are more than 10,000 beekeepers in Florida producing an average of 15 million pounds of honey yearly.

The importance of the industry is recognized by the help given the beekeeper. John Haynie has been Extension Apiculturist at the University in Gainesville for eleven years, Dr. Murphey, Jr. has been with the College of Agriculture for twelve years and he teaches beekeeping. Frank A. Robinson is Assistant Apiculturist. His work is with the propagation, distribution, and growing of honey plants that fit into the Florida Agriculture program. The three lines under which he propagates plants are: (1) Those that would spread naturally; (2) those that would be good farm crops and (3) ornamentals that might be good honey plants. At present, he is also working on the pollination of crops, mainly some varieties of citrus that are shy bearers. Russell Martin is Chief Apiary Inspector with the State Plant Board at Gainesville.

All four departments cooperate with the state association and have published proceedings since 1948. These give papers presented at the annual meetings and are used in extension work and to help acquaint new beekeepers with Florida.

The State Association

The Florida State Association is strong and active as shown by the efficient way in which they handled the National Convention and the National Honey Shows. The annual meeting is in October and a mid-winter meeting about State Fair time in February. The Association is composed of regional, county, and individual members. A past president who has given greatly to the promotion of honey and beekeeping in Florida is Fred Oren, Tampa, who has been superintendent of the honey exhibit at the State Fair for many years.

A beekeepers' institute is held each year in August at Camp Clover Leaf, Lake Placid, under the direction of Mr. Haynie, a very enjoyable and educational event.

The Beekeeping Year

Florida beekeepers work the year around with only a few slack periods. In December and January colonies are built up for the orange flow which comes in February and March. Then the bees are moved to palmetto and gallberry and the honey extracted in June. Mangrove blooms in June and July along the shores of salt water. Tupelo, on the river banks, blooms from mid-March to mid-April and requires a special type of beekeeping to get the nectar. In September many beekeepers move back to winter locations in the orange groves where requeening is done and new colonies made from nuclei.

A variety of plants bloom throughout the year from which some nectar and pollen comes. A major problem is to find blooming plants in between the major flows to keep the bees supplied with food.

A New Use For Honey

State President, Dave Phillips, tells us that a new use for honey in Florida is in the production of sterilized male flies of the screw worm to control this very serious pest of cattle and hogs. The work is being done by the U.S.D.A. in laboratories at Sebring. About ten drums of honey are used annually. The male flies are dropped into the infested areas by airplane. They mate with the females and since they are sterilized the eggs laid by the females on the cattle will now fail to hatch. As the flies soon die after egg laying without producing a new generation, the screw worm population is greatly reduced.

FLORIDA BEEKEEPING ON THE MOVE

by JOHN D. HAYNIE
Extension Apiculturist, College of Agriculture, Gainesville

Beekeeping in Florida is carried on from Pensacola to Jacksonville and south to Key West, something over a thousand miles. Good yields of honey are obtained in Florida, but it is necessary that the colonies be moved from two to four times a year. Some colonies in the state are moved twice and only one commercial crop produced, while other colonies are moved as many as four times and a crop of honey may be produced on each move.

Some colonies in western Florida, when moved to the farming section, may also produce a surplus of honey above their winter needs. A large part of the apiaries in west Florida along the rivers where tupelo honey is produced, are placed on platforms which protect them from the flood stage of the river. These platforms also serve as a protection against the bears. The overhang of the platform is such that it is impossible for the bear to climb out over the end of the platform and get on top

The late J. A. Whitfield's high land apiary located near Wewahitchka for tupelo honey, back a short distance from the swamps.

Ernest and Alford Whitfield operate these colonies on one platform on the river in the middle of the swamp which is flooded each year.

where the bees are located.

Tupelo honey usually brings the highest price but it is also the most expensive to produce. It is usually a one-crop source and bees must get in condition after the tupelo is over in order to produce another crop of tupelo honey the next year.

Practically all the bees in the tupelo section are moved each year as much as 125 miles to find honey plants in farming sections where the bees can store up honey and pollen for winter stores. During the winter and before the spring season opens up, the bees are moved from the farming section back to the platforms along the river in the tupelo river swamps.

Beekeepers in the northern and central part of the state move colonies more and farther than beekeepers do in west Florida and in south Florida. Often colonies will be moved two hundred miles one way with some being moved as much as a thousand miles out of the state.

The ten-frame Langstroth hive with shallow supers appears to be the most popular with beekeepers in central and south Florida. In the tupelo section of west Florida, eight-frame deep brood bodies are used for both the brood nest and super space. In north Florida the eight-frame hive with shallow supers is used quite extensively as this is an area where quite a bit of comb honey is produced and chunk honey packs are put up by beekeepers.

In central Florida, bees are moved as far as 200 miles from saw palmetto to the black mangrove on the lower west coast of Florida, while beekeepers on the east coast may move colonies from the mainland down to the Keys for limes and black mangrove. Since there seems to be few nectar plants of importance blooming after black mangrove, bees must be moved in for the bloom and moved out when it is finished.

Black mangrove was seriously affected by the cold weather in 1958, and it is doubtful if it will come back enough to produce much nectar for the next couple years.

After the black mangrove nectar flow is over, bees are moved back to some swamp location or some wintering place where they can be fed unless enough nectar yielding plants are available early in the spring to build strong colonies for the citrus honeyflow.

Beekeepers like to move their colonies to the citrus grove just about the beginning of the bloom in contrast to the way beekeepers do in west Florida. In west Florida, the beekeepers carry their bees from the farming section to the tupelo swamps in the winter time. They start building up on the first minor nectar flows of the season, ahead of the tupelo bloom and continue their building until the tupelo opens.

In the citrus section of central Florida, there seems to be very few honey plants within easy reach of the bees when they are located in large citrus areas. This shows up very definitely when the citrus flow is over as bees will start consuming some of their stores and become lighter in weight.

Less migratory beekeeping is carried on in south Florida than in any other part of the state, but several thousand colonies are rented for pollination purposes each year for the cucurbits—squash, watermelons, cantaloupes, whichever crop is growing at the time.

The bloom period of the same plant species may be as much as a month earlier in south Florida than in the north central section of the state. Beekeepers in central Florida take advantage of these early nectar flows and conditions in south Florida to build up strength in colonies for the citrus flow.

Weather conditions seem to be a very important factor in the production of early spring nectar flows and may also affect the extracting of honey at this time of the year. Beekeepers have steam-heated control rooms so that citrus honey can be extracted from the comb. Heat controlled rooms for extracting honey are used as far south as the Lake Okeechobee area.

In late summer, honey plants in south Florida may be affected by hurricanes and floods. In the past, the only apiary locations free from floods in the Lake Okeechobee basin was along the canal banks. In the last few years a dike has been completed on the east side of Lake Okeechobee forming a wide strip between the east coast and the Okeechobee Basin which protects colonies from flood waters. The dike now keeps flood waters well inside the canal system.

Migratory beekeeping pays off in Florida if apiary sites are not overcrowded and good weather prevails.

CONDITIONS IN SOUTH FLORIDA*

by D. O. WOLFENBARGER
Sub-Tropical Experiment Station, Homestead

Most of the soils in south Florida are sandy although there are areas of rock, muck and marl. Except for the muck, the soils possess very low fertility. All the soils have flat terrains and elevations are very low, from sea level to upwards of 20 feet above. Most of the soils are poorly drained, considerable land being under water during and following the rainy period (May to mid-October). Temperatures are comfortable although there are cool periods in winter and hot ones in summer. High moisture conditions usually prevail. Rains are common in summer and lower the temperatures.

South Florida has many conditions which make it subtropical with a result that many subtropical plants have been introduced. Honeyflows lack intensity and are seldom productive of great yields. Most of the surplus comes in January, February, March, and April. Scale colony weights show reductions beginning

(Turn The Page Please)

*Acknowledgment: Thanks are given to Mr. Conrad Kruse and Mr. F. L. Steely, two beekeepers who looked over this manuscript and offered suggestions.

Honey bees in a banana planting on the southeast coast of the southern tip of Florida, on a place belonging to Conrad Kruse, Homestead, Florida, and Loganville, Wisconsin.

WOLFENBARGER —

South East Florida

in April through summer and early fall. From about September until April, colonies make little daily gain, if any, which varies depending on available nectar.

There is enough nectar during September and October to induce swarming so there are two swarm periods, the major one in February and March and the minor one in September and October.

Brood is reared through the year and queen rearing may be conducted through the year so this is unique in comparison with other states. Brood rearing which draws heavily on stores suggests that providing stores in summer during the periods of little income is a good practice.

Migratory beekeeping is practiced by some beekeepers and colonies are moved to black mangrove at the end of the palmetto-citrus-avocado period and returned for Spanish needle later.

More colonies must be kept in south Florida to secure the production of any given quantity of honey than is necessary in more favored locations in other parts of the state. So higher capital outlays are required to get a given income.

Beekeeping produces honey, wax, queens, royal jelly and affords pollination and an enjoyable recreation to some. Many thousands of dollars doubtless result although there has been no evaluation survey.

Beekeeping is so attractive, however, that an active organization, Sub-Tropical Beekeepers' Association, holds regular bi-monthly meetings and has an attendance averaging about 40 for the nearly two years of its existence. Year-round work with bees is attractive to some members as a form of recreation. Other members include commerical honey producers and producers of royal jelly. The use of bees for pollination appeals to all and also serves as a common ground for members.

Honey bees are known to have increased the yields of avocados, squash and undoubtedly effective in increasing yields from other plants such as cucumbers and muskmelon. Concentration of colonies for experiment has shown increased avocado and squash yields within several hundred feet of the bee yards while those plants at greater distances yielded less.

Saw palmetto, Spanish needle, and black mangrove are probably the chief sources of nectar in this area. No attempt, however, is made here to name all of the honey plants nor to evaluate them for nectar and pollen production. Most of the plants have seasons for blooming, although Spanish needle blooms through the year. Bees sometimes forage on the bloom of plants, especially Spanish needle and sometimes no bees are seen on the bloom.

Enemies of the Honey Bee—The greater wax moth is so abundant that weak colonies have little chance of escaping attacks by the moth larvae. American foulbrood is as much a scourge in south Florida as anywhere else. Decay of wood and destruction from termites is probably more severe than elsewhere.

A colony in a hibiscus bush near Florida City in a front yard. Colonies may live continuously in such situations the year-round. (Photo from Wolfenbarger)

Future outlook—Current interest in pollination suggests a future for this service. This is a seasonal activity that can be combined with other beekeeping or with a non-beekeeping endeavor. Owing to the increase in size and numbers of urban communities, it has been necessary for some to retreat to more distant areas. There is much room in south Florida and should remain so for part time and amateur beekeeping.

The Problem of Honey Plants

by Paul Cutts, Chipley

Nature provided Florida with a great variety of honey plants. Many more have been imported. The early Spanish settlers brought orange seeds and this import has become the biggest agricultural crop and it furnishes more nectar than any of the native sources.

In the orange sections, the plantings cover practically every available spot of ground so when the orange bloom is over, it is necessary to move the bees out of the groves so they can maintain themselves for the rest of the season.

In sections where beekeepers depend on native flora for honey production, the picture is not encouraging. Many thousands of acres of pastures are being destroyed to build homes and factories and to provide pasture for cattle. Large land companies are planting vast acreages in pine trees to supply the paper mills. Three years ago the Extension Apiarist and the Extension Forester made a small planting of tupelo seed to try to see if it were practical to produce seedlings. The experiment was a success and these seedlings are now ready for planting. The State Forestry Department, has planted many thousand seeds of the white tupelo. The Tupelo District Beekeepers' Association is working to interest the State Game and Fresh Water Fish Commission to distribute these trees. The white tupelo seed furnishes food for squirrels, deer, and turkey. It is hoped that the trend will result some day in the white tupelo being as abundant as it was in the past.

The palmetto and gallberry sections also suffered through the cleaning up of natural growth. The Everglades have suffered least. There, wild sunflower and thistle abound and because of the nature of the section, there is little danger that this will be changed much.

The same mild climate that gives us so many honey plants, also causes trouble. In practically every place where bees are kept there are long periods of dearth and many times the bees are moved to some location where they can maintain themselves but do not get surplus. During these

(Please turn the page)

dearth periods, pollen is as much a problem as honey. The same climate is good also for many enemies like skunks, toads, lizards and ants.

Insecticides are an increasing hazard. Farmers are using more insecticides each year and there is always some kind of a campaign for mass spraying of entire areas. First, it was the white fringed beetle, then the Mediterranean fruit fly and the latest, the fire ant.

QUEEN REARING PROBLEMS

by J. L. O'FERRELL, LaBelle

The problems we have in Florida in connection with queen rearing are typical of most states which have cold weather in the spring. In queen rearing you cannot graft or set up mating boxes because the queen cells will chill and not hatch. Also the cold weather keeps the bees from building up, so there are insufficient bees for the mating boxes or for shaking package bees for early shipping.

The next major problem is the lack of pollen for build-up. Very often we have to use artificial pollen to get queens to lay. In some dry summers the lack of pollen keeps the queen from laying and this makes it hard to get enough bees for packages.

The biggest problem in the summer time is keeping the bees from swarming out of the mating boxes, so the mating boxes have to be fed constantly to keep them alive.

Fall is the best time for queen rearing but, as you know, that is the time when orders for queens are at a minimum and results in a surplus of queens.

The Beginner. Editor - W. W. Clarke, Jr.

204 Agricultural Education Building
Pennsylvania State University
University Park, Penn.

*Question from
George A. Zabrocki
New York

► Can nails made of aluminum be used to nail hive bodies of cypress?

Answer

I see no reason why aluminum nails should not be used to nail up cypress hive bodies. The combination should give excellent service. Aluminum nails may be more difficult to obtain and they are more expensive than the common nail.

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*Question from
James C. Embry
Urbana, Illinois

► I raise cut comb honey in shallow frames but I have had some beautifully filled combs ruined because they had pollen stored in them. What can I do about it? Why aren't there more articles on cut comb honey?

Answer

A few cells of pollen in a frame of cut comb honey does not ruin the whole frame. By using care when cutting, most of the honey can be saved. I should think the use of a queen excluder under the cut comb honey super would practically eliminate the problem. Make sure there is no upper entrance since bees will surely store more pollen in the super if one is present.

I do not know why more is not written about cut comb honey. However, there have been several articles in recent years which should have been a help. May 1956 and May 1957 issues of the American Bee Journal had articles dealing with cut comb honey production, and I am sure there must have been others.

The book "Honey in the Comb" by Carl Killion also has a section on bulk honey production.

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*Question from
Mark Smith
Plainwell, Mich.

► At extracting time (about Sept. 15th) there are always some combs partly filled with uncapped honey. Is there any way the bees can be induced to remove this honey from those combs and put it in the brood nest as a part of their winter supply without leaving it outside the hive?

Answer

There seems to be no easy way to remove honey from the combs. Some beekeepers place the partially filled supers under the hive bodies; the bees will sometimes move this honey up into the brood nest. It is possible also to extract this honey and feed it back. Although this system takes more time and labor, it is a more positive method. I think many beekeepers do stack the supers outside near the hives with a small entrance to allow the bees to rob them. This system is dangerous because it may cause the spread of disease and a battle between bees from different hives.

---

*Question from
Keith N. Henry
Knoxville, Tenn.

► My problem is how to transfer bees from an old box to a modern hive. I have tried inverting the box and putting the hive body above, hammering and smoking the bees up. I find they do not like to leave the emerging brood and young. After I have smoked and hammered I take the old box into the kitchen to take it apart and tie the brood in frames. Trouble is that I have too many bees in the kitchen and sometimes the queen; young bees cutting their way out of the cells; bees crawling everywhere and some flying. How can one get all the bees out of the old box before starting to cut out the brood? I realize that the emerging bees will be there but that cannot be helped. Is there some chemical that will make the adult bees and queen leave? Or some other

(Turn the page, please)

method better than the invert, hammer smoke plan?

Answer

If you wish to transfer bees the way you describe, by cutting out the brood, then I know of no better way to get the bees out of the hive than to invert, hammer, and smoke. If this is the method you want to use, do not take the hive into the house to cut out the brood. Do it outside and only when there is a honeyflow.

A much easier way to transfer a colony from a box hive to a modern hive is to allow the bees to do the job themselves. I usually place a modern hive body filled with frames and foundation on top of the box hive. During a honeyflow, the bees should draw this into comb and fill it with honey. It then becomes the winter food of the colonies. In the spring, the colony will be found in the new hive body on top. The old box hive is removed and the job is completed; no muss, no fuss, and no wasted time on the part of the bees or the beekeeper. It takes a whole season to do the job. If the hive does not fit exactly, build a frame around to close the other entrances.

**Question from*
P. W. MacNeill
Moscow, Penn.

► Is it at all practical to look for a queen in a vicious colony by first smoking with ammonium nitrate or do the bees fall into such a mass that the queen might be even harder to locate?

Answer

I am afraid the job of finding the queen would be made more difficult if too much ammonium nitrate or nitrous oxide were used, especially if enough were used to knock the bees to the bottom board. It is important to use only enough smoke to discourage the guards and slow down the bees. A minimum amount of smoke and confusion improves the chances of finding the queen.

**Question from*
Wilford C. Krugman
San Jose, California

► About a year ago, I read an article in "Gleanings" about momentarily paralyzing bees with sound. This idea interested me very much. I again read an article on this subject in the August issue of "National Geographic" (Page 193, col. I).

Since the first time I read this I have talked to various beekeepers who do not think much of this idea. However, this does not dull my enthusiasm about it. I talked to a friend who is in the radio business and he told me he could make a portable unit which would produce the sound pitch desired by using transistors and dry cell batteries. I would appreciate any information you could send my way.

Although I do not have any bees yet, I hope to next year. I have been working for a beekeeper nights and Saturdays so I am getting some experience. I also enjoy your articles in the Bee Journal.

Answer

I do not believe the idea of momentarily paralyzing bees with sound has been found to be practical. One of the problems seems to be that the high-pitched noise is very hard on the beekeeper. I also believe the equipment is very expensive and cumbersome. If your friend can help you with a small portable outfit at a nominal cost, you may want to do a few experiments yourself.

Some of this work was done by Mr. H. F. Little, while he was a student at the Pennsylvania State University, University Park, Pennsylvania, but I do not believe his work was very conclusive. Other work was done in England.

**Question from*
L. Ruttenberg
Montreal, Quebec

► This spring I bought a 3 pound package of bees which I put into a hive successfully, but some weeks later on examining the hive I found nothing but drone cells and larvae. One week later I found two queen cells, one with two eggs, one with one egg.

Although I have searched the hive thoroughly I can find no queen. I introduced two new queens at separate times with no success. The bees have become restless and fight among each other. All progress seems to have stopped in the hive. What is my problem?

Answer

I am afraid you have a very serious problem. Your colony has apparently gone queenless and laying workers have taken over; as a result you will continue to have nothing but drones.

A laying-worker colony is very difficult to requeen and that is why you were not successful with your two queens. You need to eliminate the laying workers and give the colony at least two frames of good brood, if you expect good results in requeening. Some beekeepers suggest that you carry the colony away about 100 yards, shake out all the bees, and return the empty hive to the original stand. The laying workers apparently do not return to the hive and a new queen may be introduced with a fair degree of success. We have had some luck in putting the colony partially to sleep with nitrous oxide then dropping the new queen into the hive.

It would be my thought that if the colony has been queenless since early spring and it contains only very old bees, your best bet is to destroy it and start over either with package bees next spring or with a swarm.

**Question from*
James Held
Morrison, Missouri

► After reading the Beginner Column in my first two issues of the American Bee Journal I would appreciate some advice as I am truly a beginner.

I farm for a living and this year I acquired four beehives. Two of the hives are Modified Dadant and two are of the ten-frame size. I hope to make increase from these hives.

Would it be unwise to continue with the two different sizes or would it be better to go to one size hive, if so, which would be preferred? What is the best time of the year to make increase from a hive? Is it too late this year? (Sept. 1)

Answer

Using two different sizes of equipment becomes a problem when it is necessary to exchange pieces and add supers. Your task is much easier if all of your equipment is the same size and is interchangeable. The size you use is a personal preference. In the East, the 10-frame hive is most popular, while I believe a large number of Modified Dadant hives are used in the West and Midwest.

I have reached the point now where I wish all equipment were standard in size, although I know that beekeepers will never agree on the size. Think how simple it would be to have all brood chambers and supers exactly alike so that only one size super, frame, and foundation would have to be bought, manufactured, and stocked.

I would make increase in the spring; we usually do it about apple blossom time, although it can be done earlier if the weather is warm and settled and the bees are fed. I think it is too late this year.

Vegetable Recipes Using Honey

No. 1 - Honey Baked Beans

2 cups dried beans, ½ pound scored salt pork, 1 tablespoon onion, chopped, 1 teaspoon ginger, ½ cup Honey, 1 teaspoon salt, 1 teaspoon dry mustard.

Soak washed beans in 4 cups warm water 3 hours. Cook on low heat in a tightly covered saucepan for 1¼ hours. Do not allow to boil. Drain the beans, saving the water. Place salt pork in the bottom of bean pot and add beans. Cover with mixture made of the bean water, onion, ginger, honey, salt and mustard. Add boiling water, if needed. Place small pieces of salt pork on top, cover pot and bake in slow oven about 6 hours. Uncover the bean pot during the last hour of baking. If the beans become too dry, add a little boiling water. Serves 8.

(from Mrs. Grace, American Honey Institute, Madison 3, Wisconsin)

No. 2 - Honeyed Baked Squash

1 acorn squash, 4 or 6 small pork links, 4 teaspoons honey.

Wash squash, cut in halves and remove seeds. Place two teaspoons honey in each half. Also place two or three pork links, that have been cooked and drained, in each half. Bake in oven 350° F. for 30 to 40 minutes or until squash is done. Serves two.

Variation: can be used with squash such as hubbard. Peel and place in pan. Salt and butter. Put 1 tablespoon of honey in each piece. If the squash is thick slice in half.

(Central Washington Beekeepers' Association, cooperating with the State Department of Agriculture, Marketing Branch, Yakima, Washington)

No. 3 - California Honey Beets

(Serves 6)

2 tablespoons butter or margarine, ½ tablespoons cornstarch, ¼ cup lemon juice, 2 tablespoons water, ½ cup honey, ½ teaspoon salt, 12 medium-sized beets.

Melt butter or margarine and blend in cornstarch. Gradually stir in lemon juice, water, and honey. Stir until mixture boils and begins to thicken. Boil about 2 minutes, stirring continually. Add salt. Add beets and heat thoroughly. Serve hot.

(from Two Sweet Gifts from Nature, Citrus Fruits and Honey. American Honey Institute)

No. 4 - Citrus Honey Carrots

1 bunch carrots, Salt, ¼ cup melted butter or margarine, ¼ cup honey, 1½ teaspoons grated orange peel, 1½ teaspoons grated lemon peel.

Wash and scrape carrots; cook in 1 inch of boiling salted water until crispy-tender; about 15 to 20 minutes. Drain. Blend melted butter, honey and citrus peels. Pour over cooked carrots and place over low heat until carrots are thoroughly glazed. Makes 4 servings.

(Barbara Clinton, Consumer Service, Western Growers Association in More Favorite Honey Recipes, American Honey Institute, page 56)

None of our readers sent in vegetable recipes using honey so these are all Institutional recipes. The following recipes from readers have no particular classification.

Honey Gingerbread

½ cup sugar, ½ cup shortening (butter and lard mixed), 1 egg, 1 cup of honey, 2½ cups sifted flour, 1½ teaspoon soda, 1 teaspoon cinnamon, 1 teaspoon ginger, ½ teaspoon cloves, ½ teaspoon salt, 1 cup hot water.

Cream sugar and shortening together thoroughly. Add beaten egg, honey, and dry ingredients sifted together. Add hot water last and beat until smooth. Batter is thin but it makes excellent bread. Pour into two greased shallow pans and bake in a moderate oven, (350 degrees) about 35 minutes.

(Excellent - Pat), from Mrs. Annie P. Day, Memphis, Tenn.)

Honey Currant Jelly

5 c. currant juice, 3½ c. honey, 3½ c. sugar, ½ bottle Certo.

Add honey and sugar to juice in large kettle, mixing well. Bring rapidly to boil, stirring constantly. Add Certo, boil rapidly one minute, remove from fire, skim and pour into clean glasses.

(First Prize, Minnesota State Fair, 1956. Mrs. John A. Larson, Taylors Falls, Minn.)

Honey Nut Bran Muffins

¼ cup shortening, ⅓ cup honey, 1 egg, 1 cup whole bran, ¾ cups water, ½ cup chopped nuts, 1¾ cups sifted flour, ⅓ cup non-fat dry milk solids, 2 teaspoons baking powder, ½ teaspoon salt, ¼ teaspoon soda.

Cream shortening and honey; add egg and beat well. Stir in whole bran, water and nuts. Sift dry ingredients; add to first mixture and stir until flour is just moistened. Fill 12 greased muffin tins ⅔ full. Bake at 400 degrees for 25 to 30 minutes.

(from Mrs. Wilbur J. Parkhill, Anthon, Iowa)

Buttermilk Biscuits

2 packages dry yeast, ¼ cup warm water, 2 tablespoons honey, 2 teaspoons baking powder, 2 teaspoons salt, 4 cups sifted flour, ¼ cup shortening, 1¼ cup buttermilk.

Soften yeast in warm water to which honey has been added. Sift dry ingredients and cut in shortening. When the yeast is dissolved add buttermilk and then buttermilk mixture to flour mixture and stir well. Turn out on floured board and knead a few minutes. Roll to about a half inch thick; cut with biscuit cutter and put on greased cookie sheet. Let rise about a half hour in a warm place or until quite light. Bake at 425 degrees about 12 minutes. These biscuits freeze well.

(I saw these made on a T.V. Home Cooking program. I substituted honey for the sugar - Mrs. Byron Mowson, Scottsville, New York)

(Turn the page, please)

Recipes . . .

Left over from the Swing to the Kitchen, August

Muffins, Corn Bread, Gingerbread

Coconut Honey Crisp

2 tablespoons butter, ¼ cup sugar, 1 egg, ¾ cup milk, 2 cups biscuit mix.

Blend butter with sugar. Add egg and milk. Beat well. Blend with biscuit mix just until dry ingredients are moistened. Pour into greased 11 by 7 inch baking pan, spread coconut topping over batter. Bake in moderate oven (375°) for about 30 minutes. Makes 8 servings.

Coconut Topping—

Blend 2 tablespoons soft butter with ¼ cup honey. Add ⅛ teaspoon salt, ½ teaspoon almond extract. Mix in 1 can (4 oz.) shredded coconut and 1 cup slightly crushed sugar-coated corn flakes.

Mrs. Arnold Perlick, Suring, Wisconsin

Mrs. Day's Corn Bread

¾ cup cornmeal, 1 cup flour, 3 teaspoons baking powder, ½ teaspoon salt, 1 cup milk (sweet milk), ¼ cup honey, 1 egg, 2 tablespoons melted butter.

Mix dry ingredients. Add milk, honey and beaten egg. Add melted butter last. Bake 25 minutes in a greased shallow pan in hot oven 400° F. (Serve with honey.)

Mrs. Annie P. Day, Memphis, Tennessee

Honey Raisin Bran Muffins

1 cup flour, 4 teaspoons baking powder, ½ teaspoon salt, ¾ cup bran cereal, ½ cup seeded raisins, ½ cup milk, 4 tablespoons honey, 2 tablespoons shortening, melted, 1 egg, beaten.

Sift flour, baking powder, and salt together, stir in bran and add raisins. Combine the milk, honey, melted shortening, and beaten egg. Add dry ingredients. Stir just enough to moisten the flour. Pour into greased muffin pans and bake in moderately hot oven at 425° F. for 25 minutes. Yield 18 medium muffins.

Mrs. Edwin Englert, Rosemount, Minn.

Minnesota Ginger Bread

½ cup honey, ½ cup molasses, ½ cup shortening, 1 egg, well beaten, 2½ cups sifted flour, 1½ teaspoon soda, 1 teaspoon cinnamon, ¾ teaspoon ginger, ½ teaspoon cloves, ½ teaspoon salt, 1 cup boiling water.

Cream honey, molasses and shortening thoroughly. Add beaten egg. Then the sifted dry ingredients, mixing well. Lastly stir in the boiling water. Bake in a greased, well floured square pan 9X9 in moderate oven 350° 35 minutes.

Mrs. J. H. Syverson, Williams, Minn.

If you have favorite recipes using honey send them to Editor Pat Diehnelt, Route 3, N.83-W., 13799 Fond Du Lac Ave., Menomonee Falls, Wisconsin.

Short Items . . .

Total Crop For 1959

A preliminary report of the total honey crop for 1959 has been issued by the Crop Reporting Board, U.S.-D.A. as of Oct. 9. It shows a 7% smaller crop than in 1958, largely due to the great reduction in yields in the western states. In those states there was a 40 percent reduction from a year ago. Production in the south central states shows a 9 percent decrease. Increases in yield in other areas are as follows: East North Central 39 percent; North Atlantic 15 percent; South Atlantic 6 percent; and West North Central 2 percent.

Number of colonies is about equal to a year ago. The first ten states according to rank are Minnesota, California, Wisconsin, Florida, Iowa, Texas, Ohio, Michigan, New York and Indiana. Estimated stocks of honey on hand at mid-September are about 101 million pounds as against 107 million at the same time a year ago.

Even a 7% decrease means 17 million pounds less crop than a year ago.

Rhodesian Journal

Vol. 1 No. 1 of the "Rhodesian Beekeeping Journal" was issued in place of their "Bee News." We hope the interest of the Association of that name will be successful in continuing the publication of that magazine. The editor is V. J. Montague. Subscriptions at $2.00 a year may be sent to H. T. Wadleigh, Private Bag 167H, Salisbury, Rhodesia.

Death Camas - Errors

We were pleased that you published "Poisoning of Honey Bees by Death Camas Blossoms" in October. There are three typographical errors in Table 1 on page 418. The three zero percentages in the column indicating mortality are supposed to be *dashes* since the bees in these three cages had already previously shown 100 per cent mortality.

—J. D. Hitchcock

Queen and Drug Combination for E.F.B.

O. M. Dick, Jr., Deputy Entomologist for West Virginia, Inwood, has found that an application of TM-5, plus requeening with a good Italian queen, is almost 100% successful in the control of European foulbrood. The TM-5, with half powdered sugar, is sifted not less than four times over the brood frame topbars during spring build-up.

Kraft Pull Serve

Minnie King, who helps with ABJ, tells of stopping while on vacation at a drive-in restaurant in Wichita, Kansas, and receiving as a part of her order a pull-serve plastic of honey put out by the Kraft Company. This small flat container is covered with sealed plastic which can be opened by pulling off the cover from one corner. It is common for jelly, even catchup and similar edibles, to be served this way, but this is the first time any of us have seen honey similarly distributed through a large outlet.

British-Canada Restrictions on Honey Removed

According to the Canadian Beekeeper (September) all restrictions on the shipment of honey to the British Isles have been removed. This should not only improve the market for Canadian honey but indirectly help "up" the price on good white honey entering Canada from the U.S. Canadian Co-op buyers have long held that U.S. producers have sold their honey too low when entering the Canadian market.

Another item which may help maintain the price of Canadian honey is that the Canadian beekeeper is now eligible for loans, the same as any other Canadian farmer.

Red Clover Seed Yields

Government figures indicate that this year's red clover seed crop will be the largest in four years though still below the ten year average. The average this year will be 71 pounds per acre. Illinois, Michigan, Iowa and Ohio are the largest producers of the seed.

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1 lb. Jars, per reshipping ctn. of 24	1.55	1.35
½ lb. Jars, per reshipping ctn. of 24	1.25	1.15
2½ lb. Square Jars for chunk honey, carton of 12		1.30
Sample mailing bottle—20c each	$1.85 per doz.	

FIVE GALLON OR SIXTY POUND CAN	Price
60 lb. Square Cans in bulk, each	$ .78
60 lb. Square Cans per carton of 16	13.00
Screw on Honey Gate for 60 lb. can—2½" & 3"	2.10

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5 lb.—Per Carton of 50—18c each	$ 8.50
10 lb.—Per Carton of 50—25c each	12.50

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The Federation

Secretary Joseph O. Moffett
115 So. College Ave., Fort Collins, Colorado

Why Federation needs money. We are often asked why the Federation needs more money when by October 1 we have taken in $1300 more than last year. The reason is we lost $3,000 last year. This year we had no money on hand to lose, so we have to make up this loss. Also, many of our costs have risen and it takes more to operate each year.

131 entries in Honey Show. There were 131 entries from 12 states in the recent National Honey Show held at Detroit. Michigan beekeepers won 7 of the 10 trophies. Eugene Killion of Paris, Illinois, again won the sweepstakes' trophy for his outstanding comb honey exhibit.

Honey Queen continues to publicize honey. The National Honey Queen, Kay Seidelman of Ionia, Michigan, continues to reap publicity. During the Michigan State Fair she appeared on stage with the Mills Brothers and presented them some honey from the National Honey Show. She has been on several more radio and TV programs, as well as being a guest of honor at more local fairs.

The queen will be available to travel to any state to publicize honey if her traveling expenses are paid.

Group life insurance plan received. The Federation has been investigating the possibility of offering group insurance policies to our members. A proposal on group life insurance has been received from one company. This proposal would make $5,000 worth of insurance available to each Federation member. Each employee of a member could obtain $2,000 of life insurance.

This insurance would reduce by 50% when the insured reached 65. To be effective, at least 100 members would have to sign up for this insurance. Everyone who applies during the first month is accepted. After the first month, a medical examination is required. Information is also being gathered on other types of group insurance and on other life insurance group plans.

Honey prices up 1 to 2 cents. Your Federation conducts a limited postcard survey of the honey market every two months. Returns indicate that the honey market has strengthened lately, with the price advancing 1 to 2 cents a pound. Cut comb honey is in big demand, with one large packer paying 22c a pound for this type of honey.

Legislation. Legislation to enable our industry to help ourselves is being considered. The different plans will be discussed at the Phoenix convention on January 10-16, 1960.

Join with the growing Federation. Join with your fellow beekeepers and help us build a better bee industry. Come to Phoenix and have your say on what your organization does. Send in your dues TODAY. Dues are 4c a colony with a $3.00 minimum.

Short Items - - -

U.S.D.A. Arranges for Processing Honey

The Commodity Credit Corporation of the United States Department of Agriculture contemplates contracting for the processing and packing of agency owned extracted honey during September, October, November and December and invites offers to perform such services. Requests for details should be addressed to A. A. Greenwood, Sugar Division, Commodity Stabilization Service, U.S.D.A., Washington 25, D.C.

Inside the World of the Honey Bee

Many beekeepers have already seen and read the splendid article by Treat Davidson in the August issue of the National Geographic Magazine. It is suggested by Charles S. Garrett of Buford, Georgia, that high schools might use this for biology classes. If anyone is interested in this write to Mrs. Nancy Clinch, Editorial Research, National Geographic Magazine, 16th and M. Streets, Northwest, Washington 6, D.C.

Jarvis Book on Folk Medicine

Reviewed earlier in these pages, Dr. D. C. Jarvis' book on "Folk Medicine" has met with high reception on the part of the public. Starting with a rather small edition the publishers have been compelled to print several extra editions of several thousand each to meet the demand.

His chapter IX on the "Usefulness of Honey" has made the demand for cappings such that many beekeepers especially in the eastern areas save all their cappings for such use and at premium prices.

We recommend this excellent book to our readers as a gift or for sale to customers and prospective customers for honey. A clothbound book of 180 pages, it sells for $3.00. The American Bee Journal maintains a stock of these books on hand as above.

Crimson Clover, Vetches

Forecasts for seed production by U.S.D.A. appear to presage a reduction of 27 per cent in crimson clover seed harvests below 1958. Oregon is having a large crop, made up by a shortage in southern areas.

Hairy vetch total apparently 31 per cent less than the average, but 42 per cent larger than a year ago. The purple vetch seed crop in California promises to be 23 per cent more than in 1958 on account of unusually large acreages harvested for seed in the rice areas of the Sacramento Valley.

"Beginning Beekeeping" - North Dakota

Circular A-310 from the North Dakota Agricultural College with this title was published this year in March. Authors are Dr. R. L. Post and Wayne J. Colberg. In its large sized twelve pages advice is given on how to get started, cost, equipment, bee life, locations, package installation, hive manipulation, seasonal management, honey extraction, bee laws, and bee diseases. Those interested inquire of the Extension Service, Fargo, North Dakota.

4-H Club Work Increasing

A recent issue of The Everett Daily Herald, Washington, gives photographs and quite a lengthy report on the activities of James Apland of Everett who was awarded five blue ribbons on his bee and honey display at the 4-H Fair at Marysville. As we understand it, he is now up as a contestant in all classifications on state levels. The young man is to be congratulated.

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Meetings and Events

Southern States Beekeepers' Federation
Valdosta, Georgia, Nov. 9 - 10

The oldest beekeeping organization in the United States to hold annual conventions, The Southern States Beekeepers' Federation, will hold its 31st. meeting at Valdosta, Georgia, on November 9-10. Leaders in southern beekeeping from Maryland to Texas are expected to attend the convention, the site of which will be The Ashley Oaks Motel on U. S. Highway 41, North.

The SSBF has no constitution, no by-laws, and no dues. All beekeepers who pay dues to a state organization are considered members, and all persons interested in beekeeping are invited to attend. Greatest emphasis has always been placed on good fellowship at SSBF meetings and beekeepers from all over the nation have attended this convention in the past to meet old friends and make new acquaintances.

Among those planning to address the convention are: Dr. Clayton L. Farrar, Head of the Bee Culture Section of the U. S. Department of Agriculture; Mrs. Harriett M. Grace, Director of The American Honey Institute; John Root, Managing Editor of *Gleanings in Bee Culture;* R. A. Grout, Associate Editor of *The American Bee Journal;* R. B. Willson, of R. B. Willson, Inc.; and J. S. Miller, Editor of the Honey Marketing report of the U. S. Department of Agriculture.

Registration for the convention will begin on Sunday evening, November 8. A "Dutch Dinner" for past presidents of the SSBF will be held at 8:00 p.m. Sunday. The annual banquet will occur on Monday evening at 7:30, and John Amos, Extension Entomologist of Virginia Polytechnic Institute will serve as toastmaster for this highlight of the convention.

An afternoon is being arranged for the benefit of the ladies and a special program will be held for beginners and hobbyists. Every effort is being made to insure that this Valdosta meeting will be up to the usual high standards of past SSBF conventions. Plan to attend this friendly beekeepers' get-together. Make your reservations now by writing The Ashley Oaks Motel, U. S. Highway 41, North, Valdosta, Georgia.

Midwestern (Mo.) Kansas City
Nov. 8th

The Midwestern Association will hold its regular monthly meeting in the I.O.O.F. Hall, 812 Westport Road, Kansas City, Missouri, at 2:30 P.M., Sunday, November 8.

On the agenda will be a discussion of current operations in the apiary and colored slides of our summer activities. Refreshments. Everyone welcome.

Carroll L. Barrett
Secretary

Georgia Association
Hahira, Nov. 30th

The Georgia Association will meet in Hahira at the Hahira American Legion Home on Monday, November 30.

Registration will begin at 8:00 a.m. The meeting will be called to order at 9:00. The theme of this year's meeting will be "Publicizing Honey, Nationally and Locally." Particular emphasis will be placed on the importance of the Check-Off Plan and the ramifications of the proposed Marketing Agreement.

There will be a banquet at the American Legion Home on Monday night, free to all who attend the association meeting. All interested in beekeeping are invited to attend this meeting.

Garnett Puett
President

Southeastern Minnesota
Wabasha, Nov. 7th

The Southeastern Minnesota Association will hold its fall meeting at the City Hall, Wabasha on Saturday November 7. The meeting will open at 10 a.m. with a report on honey marketing and the recent 9-State crop survey.

Speakers, slides and movies will all be on the program and no beekeeper should miss this meeting.

Dinner will be served at the Saunders Cafe with hot biscuits and honey being at the top of the menu with the usual fine meal being served at noon. All are welcome!

F. Q. Bunch,
Secretary

Middlesex County (Mass.)
Waltham, Nov. 28th

The Middlesex County Association will hold its November meeting the 28th at the Waltham Field Station at 6:30. A six months' beginners course has been prepared. The November meeting covers feeding and principles of wintering— ventilation — stores— population— activity of winter cluster— protection— location led by Dick Corrigan.

Douglas Brown won the Club Hive at the September meeting. Many other prizes were won including hive tools, jars, books, a glass top inner cover and Vitex trees. With over seventy present the use of the Interlooker was demonstrated. Dr. Weaver from Navasota, Texas, spoke on royal jelly research in the U.S.A. and Mr. Richardson from Worcester spoke on the proper preparation of honey for exhibit and sale.

Dr. Frank Shaw of the University of Massachusetts spoke on "Bee Poisoning" at our October banquet meeting.

M. Southwick, Corres. Sec.

Saskatchewan Co-operative
Regina, Nov. 18-19

The 37th Annual meeting of the Saskatchewan Co-operative Association will be held November 18 and 19 at the Hotel Saskatchewan, Regina. The meeting will begin at 1:30 p.m. on November 18.

We have an imposing list of speakers lined up including Vic Mesley, Kemptville, Ontario, President of the Canadian Beekeepers' Council and Dr. C. L. Farrar, Head of Bee Culture Section, U.S.D.A., Madison, Wisconsin. Besides we have asked four other top men in the extension and research field to attend: J. Corner, Provincial Apiarist in B. C.; Pete Pankiw, Apiculturalist, Beaverlodge Experimental Station; Dr. J.C.M. L'Arrivee, Brandon Experimental Station; and G.H. Austin, Head of Apiculture Section, Research Branch, Canada Department of Agriculture.

We know this is going to be one of our best meetings in several years. Plan to attend and enjoy the speakers and the fellowship with other beekeepers.

D. M. McCutcheon,
Provincial Apiarist

Alabama
Montgomery, Dec. 4-5

The Alabama meeting will be in Montgomery Dec. 4th and 5th at the Holiday Inn Motel. For motel reservation please write the Holiday Inn Motel, Montgomery, Ala.

Neal Miller Safford

Montgomery County (Penn.)
Norristown, Nov. 12th

The annual meeting of the Montgomery County Association will be at 8 P.M. Thursday, November 12, at the Montgomery County Court House Annex, 400 Markley Street, Norristown, Penna. Officers will be elected for the ensuing year and an interesting program is planned.
J. O. Sweeton
Vice President

Empire State Honey Producers
Syracuse, Dec. 4-5

The annual 2-day winter meeting of the Empire State Honey Producers Association will be held December 4 and 5 at the Onondaga Hotel, Syracuse, N.Y.

Dr. Jarvis has been invited to speak on "The Usefulness of Honey." A citation will be given to him for his book, "Folk Medicine." An excellent program has been arranged with a For and Against discussion of the proposed Honey Marketing Order. Mr. James Hambleton will be honored for his many years of service to the industry. All are invited to attend.
Mary Cary Trippi
Sec. Treas.

Oregon State,
with Washington and Idaho
Walla Walla, Dec. 3-5

Our State Association meets this year with Washington and Idaho in a tri-state meeting. Dates are December 3, 4 and 5th, at the Marcus Whitman Hotel, Walla Walla, Washington. Our host state has an excellent program planned—make it a must!
Oliver Petty,
Secretary

Washington State,
with Oregon and Idaho
Walla Walla, Dec. 3-5

December 3, 4, & 5 at Walla Walla are the dates and place of the Tri-State Beekeepers Convention. This includes Oregon, Idaho, and Washington.

A meeting of this type was held in Pendleton, Oregon, in 1957 and was considered a great success. We hope to make this one as good or even better.

Our feature speaker at the meeting and also at the banquet Saturday evening will be Dr. J. E. Eckert, apiculturist from the University of California.

There will be numbers on the use of antibiotics for disease controls, royal jelly, mechanical developments, insecticides, and pollination.

We feel this will be a meeting which anyone interested in beekeeping cannot afford to miss. We wish to invite everyone interested. Headquarters will be at Marcus Whitman Hotel, Walla Walla, Washington.
Mrs. E. B. Purchase,
Secretary

Iowa Association
Ames, Nov. 13-14

The dates for the Iowa Association fall meetings are November 13th and 14th, at the Memorial Union at Iowa State University at Ames. A well-rounded program is being planned so try to be on hand to make it a good meeting.

A banquet will be held the evening of the 13th which I am sure you will want to attend.

A marketing meeting will also be held in conjunction with the regular meeting. This will be on the evening of the 12th at the Memorial Union, with Mrs. Carl Soder, marketing chairman presiding.
Glen L. Stanley,
Secretary

Illinois State
Springfield, Nov. 7-8

The regular meeting of the Illinois State Association will be at the St. Nicholas Hotel in Springfield, on Nov. 7-8. Since there has been a fine honey crop in this area it is likely that an above average attendance can be expected. The usual fine program is being set up so come and enjoy yourselves.
Hoyt Taylor
Secretary

Central Jersey
Freehold, Nov. 13th

On Nov. 13th, Friday, at 7:30 p.m., there is to be a very important meeting of the Central Jersey Association, at the Monmouth County Extension Service Building, 20 Court St., Freehold.

After the election of officers for the new year, Everitt P. Bradley will talk about pollination with honey bees, with slides for illustration. Then William Garth, president of the Morris County Association, will show movies about beekeeping in Morris County. Visitors are welcome.
Forrest Campbell
Secretary

Wyoming State
Worland, Dec. 4-5

The Wyoming State Association will hold its annual meeting on December 4th and 5th at the Washakie Hotel in Worland.

The program will feature reports from the state entomologist and state apiary inspector; an address by the state commissioner of agriculture, Bill Kirk; also a paper on the proper preparation of exhibits for state and county fairs.

A main topic for discussion will be about the merit of marketing orders for the industry with speakers for both sides of the question. It will be a panel type discussion with questions from the floor. Featured speakers will be Ken Bradshaw of Wendell, Idaho; John Hotchkiss of the Bee Culture Laboratory, Laramie; and Frank Swanson of the A. I. Root Co., Council Bluffs, Iowa.

Election of officers will be on Friday afternoon. A banquet Friday evening at the hotel. A larger than usual turnout is expected because of the interest in the marketing orders and in the Enabling Act. Plan to stay overnight so you will not miss any of this important meeting. Packers and suppliers are always welcome.
Harley L. Kittle, President
Walter Fliegner, Sec.-Treas.

Fred Miller of Kentucky

We regret to announce the death of Fred O. Miller of Louisville, Kentucky. He has for many years been a great help to beekeeping interests in Kentucky, having made it his policy to work for the young beekeepers in 4-H, FFA and Boy Scout work, furnishing observation hives and superintending the honey exhibit at the State Fair. He also acted as inspector for a number of years.

M. E. Triplett

One of the finest beekeepers and gentlemen in northwest Missouri, passed away recently. He is M. E. Triplett of Triplett, Missouri, who had some 200 colonies of bees. He had been a beekeeper over a number of years, in fact since boyhood. We understand Mrs. Triplett desires to dispose of the bees.

(Turn the page, please)

Tony Jack Wells

During the recent floods in Oklahoma, Tony and his wife, Beulah, were killed when their honey loaded truck plunged into a creek between Ripley and Stillwater. A portion of the bridge had been washed out by flood water and they could not see that it was missing because of the heavy rain and the swollen creek. The truck plunged into fifteen feet of water.

Tony has been a Journal contributor for some time. His "Little Brown Jug" in the May issue this year was a fine job of writing. Tony and his brother, Jim, were in business together as farmers and beekeepers and they operated a radio station, a tax advisory agency and an auctioneer service. Tony packed most of their honey in Frankoma pottery which sells well at a higher price than normal.

We hope that Jim and son Harland will continue in the business. Tony's loss is a loss to the entire industry. He had an ecouraging outlook. Faith and hard work made him a man to be remembered.

Dr. Arnold P. Sturtevant

We regret to announce the death of Dr. Arnold P. Sturtevant, 70, which occurred on September 17 at his home in Laramie, Wyoming.

Dr. Sturtevant had been in charge of the Bee Culture Laboratory for the United States Department of Agriculture in Laramie for 32 years, having been sent out there at that time from Washington, D. C. where he already was in the Bee Culture section.

Dr. Sturtevant spent 42 of his years in this entomological work and became noted the world over for his rich accomplishments in the disease line. His first work was at an experiment station in Amherst in 1915.

Dr. Sturtevant had been retired from bee culture work since May of 1958. He leaves besides his wife, one daughter, and three granddaughters.

Mrs. Matt Arens

Mrs. Matt Arens of Kellogg, Minnesota passed away at 8:30 A.M., July 20 of a heart attack while working in the honey house at her home. Sunday July 19th she and her husband had attended the SE. Minnesota Beekeepers Association summer picnic at St. Charles, visiting with all of the area beekeepers and appearing in excellent heath.

The former Miss Emma Schmidt was born Oct. 20, 1912 at Frontenac, Minn., the daughter of Mr. and Mrs. Edward Schmidt. She married Matt Arens April 19th, 1954 at St. Agnes Church, Kellogg, Minn. They have run approximately 200 colonies of bees and she was secretary of the SE. Minnesota Beekeepers Association from 1945 to 1955, also being one of Minnesota's most respected state bee inspectors for many years. She served as assistant superintendent of the Honey Display and Honey Cooking Department at the Minnesota State Fair for many years.

Minnesota beekeepers will miss her cheerful greeting and sunny smile as well as her sound advice in disease and beekeeping problems.

F. Q. Bunch
Secretary

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STATE OF ILLINOIS
County of Hancock—ss.

Before me, a notary public in and for the state and county aforesaid, personally appeared M. G. Dadant, who, having been duly sworn according to law, deposes and says that he is the business manager of the American Bee Journal and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

1. That the name and addresses of the publishers, editors, and business managers are:

Publishers: American Bee Journal, Hamilton, Illinois.

Editors: G. H. Cale, Hamilton, Ill., M. G. Dadant, Hamilton, Ill., R. A. Grout, Hamilton, Ill.

Business Manager: M. G. Dadant, Hamilton, Ill.

2. That the owners are: Dadant & Sons, Inc., Hamilton, Ill.

3. That the known bondholders, mortgagees and other security holders owning or holding one per cent or more of the total amount of bonds, mortgages, or other securities are: None

Stockholders:

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4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company, but also, in cases where the stockholder or security holder appears and upon the books of the company as trustees or in any other fiduciary relation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds or other securities than as so stated by him.

(Signed) M. G. Dadant,
Business Manager American Bee Journal

Sworn to and subscribed before me this 8th day of October 1959.

Frances Rowe, Notary Public
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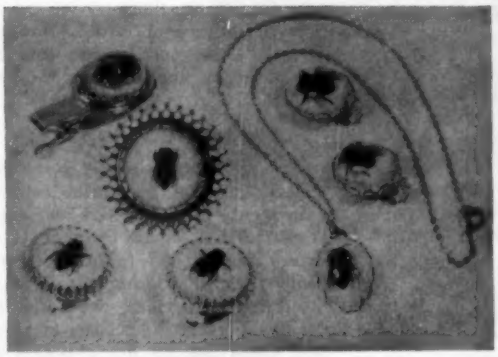

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—Crop and Market—

by M. G. Dadant

COLONY CONDITIONS

In most areas, colony conditions are at least equal if not better than last year, although we have some adverse reports in eastern and northern New York and in Virginia and Georgia. In the intermountain area, particularly, and along the West Coast, the dry conditions prevented very good late fall nectar and, as a consequence, the bees have not built up to proper strength for wintering. The same apparently is true in Ontario, and Manitoba.

MOISTURE

Throughout all the central areas and southcentral areas, moisture conditions have been better than normal, in fact, perhaps in some cases, too much moisture for proper harvesting of ordinary farm crops.

There has been a "lifting" of the dry conditions to some extent in the intermountain areas and extending into the Dakotas, although conditions on subsoil are not yet too favorable.

The same situation exists in southern Idaho and extending into the states bordering the Pacific Coast, particularly California, where our readers will recall that reports have been made of recent forest fires, evidently due to insufficient rainfall to hold down such conditions. Ontario and Manitoba also report perhaps somewhat less than best conditions for rainfall.

Early rains in the intermountain area raise hopes that the moisture may be sufficient at least for adequate irrigation during the 1960 season.

HONEY SALES

Honey has been selling definitely as good, if not better, than a year ago with a less percentage of the honey still left in the hands of producers, as reported by the Marketing Service in Washington, D. C. Retail sales, no doubt, have been helped by the publicity given by the articles in the Jarvis book on the value of honey, since this book has gone through its 12th edition already in the course of the year. Some beekeepers have been able to take advantage of the recommendations for cappings honey for sinus trouble, although no general recommendations are made as to proper methods for production and storage of such cappings so as to insure a supply during the entire year, or at least during the entire winter season.

In a jobbing way, there has been a definite improvement in jobbing quotations on honey. One or two of the larger packers, particularly in the West where the crop has been short, have been active in purchasing honey and the result has been to eliminate many of the previous underrated prices. Where a month ago we recommended that good white honey be held at least for 12c, we would be inclined to "ante" the suggestion to 13c and, in fact, in many cases 13c and 14c have been received for good white, honey, f.o.b. producer's station. There are still a few reports of quotations as low as 11c on white honey, but these are in the minority, whereas earlier they were perhaps in the majority.

Strangely enough, the region of low prices now has shifted to Michigan, and Wisconsin, owing to the heavy crop there and perhaps the reticence of local buyers to get up in line with buyers in other parts of the country. Even here; however, the price has tended to rise.

On amber honey, conditions are still not very good and where we usually count on a difference of some 2c a pound between amber and white, this sometimes ranges now as far as 4c per pound. However, we believe that in time the amber will pick up not only through the necessity of some amber for blending but also owing to the fact that after January 1 there apparently will be much more demand for amber honey for export.

THE CROP

As reported in another part of this magazine, the marketing services at Washington reports a 7% less crop than last year. We are inclined to think that they are overestimating the crop even on this basis. However, you will recall that on this basis, this makes a difference of some 15 to 18 million pounds less than a year ago, which should very handily make up for whatever honey was carried over from 1959. In fact, some of the buyers have been very eager to replenish their supplies before good white honey stabilizes at a price which they think may go higher than the 12c to 12½c which is being offered.

Personally, it is our opinion that the goverment has overestimated the crop owing to the fact that the fall crop has not been of any consequence and there are areas like the southcentral southern states, like Kentucky, Tennessee, etc., where the crop has been very meager. This extends into southern Indiana, Illinois, and Missouri, and as far south as Alabama.

Spotted conditions also in South and North Dakota hardly preclude the statement that conditions for a crop are normal in those states as the government report issued. However, they have far more reports than has this reporter and perhaps they are right.

SUMMARY

It seems that bees are going into winter quarters in most instances with plenty of young bees and ample stores to carry them through an ordinary winter. As to honey plants, heavy rainfall throughout most of the Dutch white clover areas and into the sweet clover areas seem to assure that there will be honey plants for next year and ample moisture to develop those which come up in the spring. Perhaps the sourwood area, which has been a disappointment in recent years, may again "bloom" in 1960 owing to ample subsoil moisture which we believe is a prerequisite for developing the proper nutrients for nectar secretion in the sourwood bloom.

There is no cause for alarm in the stocks of honey held and no necessity unless the producer is "hard pressed for money" to take the first offer of a buyer on honey. It looks like the tendency would be for honey prices to increase rather than decrease, providing, of course, that general conditions do not show an abatement in employment and in general prosperity.

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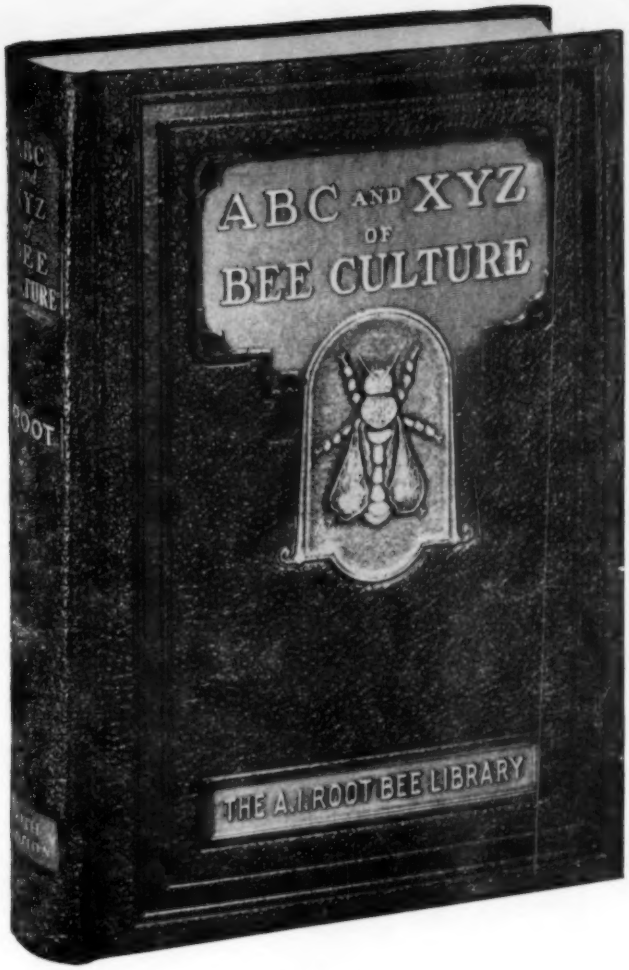

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